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RECTAL FISTULA.*

BY A. E. HALSTEAD, M. D., CHICAGO,
Professor of Surgery in Chicago Policlinic.

The term rectal fistula or rectal sinus should be employed only in the description of a suppurating channel opening at one extremity on the skin in the neighborhood of the anus and the other terminating in an abscess cavity in close proximity to the rectal or anal canal. This cavity may or may not communicate with the bowel and is always the result of infection from the rectum. Fistulous tracts communicating with abscesses having their starting point from some other pelvic organ or from the bony wall of the pelvis, even though they may communicate with the rectum, cannot properly be considered under this head. Furthermore, the term fistula presupposes a chronic condition and should not be applied to recent sinuses such as the tracts formed by the discharge of acute abscesses which many times close spontaneously as well here as channels of like origin do in other parts of the body.

It is fair to assume that all rectal or anal fistulae are the immediate result of an abscess which has formed within the wall or in close proximity to the lower bowel. The location of the abscess determines the character of the fistula. Thus an abscess above the Levatores Ani, in the superior pelvirectal space, will give us a true rectal sinus with the external opening at any distance from the anus. The internal opening, if one exists, is always above the sphincters and frequently high up in the rectum. These high rectal fistulae are rare excepting as a complication of stricture.

If the abscess develops in the Ischiorectal Fossa, which is by far the most usual place, the pus will be directed in the majority of cases by the anal fascia which forms the roof of this cavity and consequently the internal opening will be found at a point where the fibres of the Levator Ani with the anal fascia are inserted into the rectum. This corresponds to the point of approximation of the internal and external sphincters. In these cases the sinus may pass above or below the external sphincter, usually above.

The third variety of fistula, the one which Quenu considers the most common, is the subcutaneous or submucous resulting from suppuration in the anal wall below the external sphincter. The infection in these cases usually begins in the hemorrhoidal node somewhere near the mucocutaneous junction. Although this may be the commonest form of fistula, yet it is not the one most commonly treated by the surgeon, as in many cases the symptoms produced by this condition are insignificant and do not attract the patient's attention and he therefore does not seek treatment.

All of these varieties may be either complete or incomplete, that is, have two orifices, one opening into the rectum and the other on the skin, or they may have but one and that may be either mucous or cutaneous.

The question of the relative frequency of complete or incomplete fistulae is still unsettled. It is generally admitted by all writers that incomplete internal fistulae are very rare. In Czerny's clinic of 61 cases operated, which were reported by Griffrath, only three internal incomplete fistulae were treated. The explanation of the infrequency of this form of fistula is that if they are not treated within a short time they usually become complete fistulae, that is to say, they may be regarded as the first stage of a complete fistula.

Incomplete external fistula is regarded

*Read at the Fiftieth Annual Meeting of the Illinois State Medical Society, Springfield, May 16, 1900.

by some as the commonest variety. In the cases treated in Czerny's clinic that have just been referred to, of the 61, 40 were incomplete external. This large proportion of external fistula has not, however, been found in the practice of other surgeons. Beck, in 37 cases treated, did not find one case of incomplete fistula, and many others have had the same experience. It is undoubtedly true that the internal orifice of a fistula may close at any time and thus convert a complete fistula into an external incomplete. In the early stages, however, the complete fistula is by far the most common. Another explanation of the supposed frequency of the external incomplete fistula is that in many instances the abscess cavity extends some distance above the point at which the rectal wall has been perforated and for this reason the internal orifice is not readily found and may be overlooked.

In passing a probe, particularly in the submucous variety, we frequently find the mucous membrane separated from the musculature of the gut for some distance, while the internal orifice is quite close to the anal verge, hidden in many cases behind a fold of the mucous membrane which renders its detection extremely difficult.

The external orifice of a rectal fistula may be found at any point on the perineum or on the skin of the buttocks at some distance from the anus. Its location is largely determined by the relation of the sinus to the various layers of fascia which assist in closing in the pelvic outlet. If the sinus is immediately underneath the skin or superficial layer of the superficial fascia it may open anywhere even on the inner side of the thighs or far out on the buttocks. If beneath the deep layer of the superficial fascia the length of the fistulous tract will be limited by the attachments of the fascia to the pelvic bones. In the majority of cases the external orifice will be found within an inch of the anus and posterior to a line drawn transversely through its center. Goodsall considers that there is a constant relation between the point of opening of the fistula on the skin and its internal orifice. In those where the cutaneous orifice is posterior to this line the internal is in the posterior rectal wall; where it is anterior, the mucous orifice is directly above.

The appearance of the external orifice will in many cases enable us to determine the nature of the fistula. In simple nontubercular fistula, the opening is usually found in the center of a depression which is the result of cicatricial contraction and immediately surrounded by a slightly elevated zone of granulation tissue. In the tubercular form the external orifice frequently opens on the floor of an ulcer which presents an irregular outline with undermined edges, the skin in the vicinity of the ulcer having a bluish tint with tubercles bordering its margin.

The tract of a fistula is seldom straight and frequently presents variations in caliber in different parts of its course. In many cases several sharp turns are encountered when we attempt to pass a probe. In others we find diverticula and pouches or secondary channels leading from the main tract. At times these open by numerous orifices on the skin of the perineum and buttocks. Ball records a case in which 22 cutaneous openings were found. These constitute the complex fistula of some authors. The explanation of this condition is simple; the main tract becomes temporarily occluded either by fecal matter or inflammation products and the contents of the abscess must find an exit in another direction, which is accomplished by establishing a new sinus. The so-called horseshoe fistula is simply two fistulae opening one on each side of the anus and both leading to a common cavity, usually situated behind the posterior wall.

The structure of a fistula varies with its age. In recent cases, shortly after the sinus is established, we find a channel only slightly indurated lined with granulation tissue, which bleeds easily if disturbed. In old cases the deeper layers of granulation tissue have become changed into fibrous tissue while that forming the innermost lining of the tube is flabby and presents a pale-gray appearance in contradistinction

to the bright red that is found in the more recent cases.

In tuberculous fistulae the wall of granulation tissue is thicker and there is not so much of a tendency for the cells of the deeper layers to progress into mature connective tissue. We also find localized dilatations of the tract forming small tubercular abscesses. In all, as time passes, the induration becomes greater and the chances of spontaneous recovery become less, chiefly because of the fibrous tissue preventing collapse of the tube.

The question of the frequency of tubercular rectal fistula and of the coincidence of fistula and pulmonary disease, demands brief consideration. The first to recognize the simultaneous occurrence of rectal fistula and pulmonary tuberculosis was Jean Louis Petit (1675-1750). He also is credited with having made the observation that in those cases in which a rectal fistula was closed the patient would be attacked with pulmonary tuberculosis. This idea is still held by many at the present time. Of modern surgeons, the first to call attention to the relation between fistula and tuberculosis was von Volkmann in 1875, who observed in several cases fistula originating from tubercular ulcers of the lower bowel. Griffrath, in 61 cases from Czerny's clinic, found lung tuberculosis to be present in 10. In 7 others he was able to obtain a family history of tuberculosis. Hartmann, among 48 cases of fistulae operated upon, found 23 times undoubted signs of pulmonary tuberculosis. In 2, the personal or ancestral antecedents allowed the suspicion of tuberculosis. In 23 cases the patients appeared to be free from this disease. In the 48 cases operated upon only twice were tubercular ulcers of the mucous membrane of the rectum demonstrated. He considers that most cases of fistulae, in tubercular patients, have their origin from the anus and not from ulceration of the rectal mucosa. In 10 cases of ischio-rectal suppuration independent as far as could be determined of any rectal or anal lesion in which bacteriological examination was made, in 6 the pus contained tubercle bacilli. In 1, there was a mixed infection of tubercle bacilli, streptococcus and the yellow staphylococcus; in the other 5, the tubercle bacillus was associated with the colon bacillus.

The high percentage of tubercular fistula and those associated with pulmonary tuberculosis which Hartmann's cases present, is not equaled in the practice of other surgeons. Allingham, with an exceedingly large experience in the treatment of rectal disorders, found only 14 per cent of his cases of fistula to present any evidences of tuberculosis. In this country there are no records to show that the percentage is higher than Allingham found.

Other diseases, such as syphilis, particularly in the tertiary stage, where gummata are deposited and subsequently suppurate, may constitute the starting point of a rectal fistula. In two of Griffrath's cases, the patients were suffering from diabetes. Ischio-rectal actinomycosis has also been demonstrated to be the cause of rectal fistula in a case reported by Poncet. In a case of rectal actinomycosis treated by the author in 1896, numerous sinuses opened upon the perineum about the anus which closely simulated tubercular fistula.

The literature of the treatment of rectal fistula dates from the beginning of the practice of the art of healing. The various methods which have been employed from the earliest time may be classified as follows: 1. Methods designed to promote healing without laying open the fistulous tracts, there are: (a) Cauterization; (b) compression; (c) subcutaneous division of the sphincter ani externus; (d) curettage with packing the fistulous tract. 2. Division of the tissues between the fistula and the rectum is accomplished; of these we have: (a) Simple incision; (b) ligature; (c) ecrasement; (d) galvano-cautery.

The treatment of fistula by cauterization was practiced in the earliest time. Celsus advised the use of cauterization injections particularly in complex fistula or when the depth of the sinus forbade the use of the knife. Later in the middle ages this method was generally employed. In modern practice we find it still advocated in the class of cases in which Celsus con-

sidered it indicated. Of its utility, at the present time, it may be said to be the method mostly employed by traveling specialists. In regular practice its use is limited to recent simple submucous fistula or in cases where for any reason operative treatment is contraindicated. The methods of application of cauterizing chemicals to fistulous tracts will be found fully described in any modern work on rectal diseases. It may be said in favor of this method that it is devoid of danger, only slightly painful and that it will effect a cure in a certain number of cases. Against it, that it is uncertain and is not to be depended upon in long standing cases or where there are multiple fistulae presenting numerous irregular channels.

Compression was intended to prevent the entrance of fecal matter into the fistula. To accomplish this, foreign bodies were introduced into the rectum. Colombe employed a hollow cylinder of ebony or rubber.

Piedaguel, a linen bag filled with charpie. Attempts to carry out this plan were made with difficulty and only in rare instances were followed by success, consequently it was soon abandoned.

Mayer suggested subcutaneous division of the external sphincter as a means of treating fistula. The finger was passed into the rectum and an incision made close to the anal margin; the knife was then passed on a grooved director and the sphincter divided from within outwards.

Extirpation of fistulae was described and practiced by Celsus. He operated by passing a flat ground probe into the fistula and out through the anus. Traction being made so as to bring into view all of the tissues thus included. The fistula was excised by making two lateral incisions, one on each side of the director. This method was also employed by Cheselden, LaFaye, Pallas and others of that time, who advocated the use of a broad polypous forceps, one blade passing into the rectum and the other in the fistula; all of the tissue grasped was then excised with scissors. This operation was popular particularly among French surgeons, but the result following were in many cases loss of sphincteric control excessive scar formation or death from sepsis.

Partial excision, consisting of laying open the sinus, with removal of the granulations, fibrous tissues and skin tags, was advocated by Emmert and practiced by Petit, Fallopia and Sabatier. The operation of incision alone was practiced by Hippocrates and was commended by Galen and his pupils because of the speedy cure which usually followed. Galen used a curved probe-pointed knife with a single cutting edge.

During the middle ages these radical methods were lost sight of. The prestige of the operative treatment was quickly restored when Felix successfully treated by incision a fistula on the person of Louis XIV. of France, employing the Bistouri Royale a sickle-shaped knife.

The ligature method was described by Hippocrates and again by Celsus. After the successful operation on Louis XIV. it was discarded, but again introduced by Desault. The credit of simplifying and bringing before the profession the modern operation of incision belongs to Pott, who discarded the complicated instruments used by the French and employed a moderately curved probe-pointed bistoury. After he had shown that extensive excision was not essential and that simple division of the fistulous tract was sufficient, the operation became at once popular and has so remained. Division of the tissue between the rectum and the fistulous tract by the cautery knife has in recent years been popular with a few surgeons. Czerny employs the knife of a Paquelin cautery and his assistant Griffrath, whose report has been referred to, highly praises this method and claims for it distinct advantages over the method of division with cutting instruments.

The procedure which seems to me to be the most rational is the modern method of excision of the fistulous tracts after incision of the tissues between the fistula and the rectum. When all of the fibrous tissue about the tract has been removed, the wound is closed, the deeper parts with

buried catgut and the skin and mucosa with silkworm gut sutures. If this is accomplished and the wound kept aseptic, we secure healing in from five to eight days with sphincteric control almost from the beginning.

The method of simple incision is followed in the majority of cases by a cure, but the time consumed is from three to six weeks, while in excision with suture the patient is practically well at the end of one week. In complex or multiple fistula it may be impossible to remove all of the fistulous tracts at one operation, but this only rarely happens.

In most cases the fistulous channels are underneath the skin and fascia and excision of these tissues is of no consequence. In very few is it necessary to divide the sphincter in more than one place. It is worth remembering that in the operation for fistula, division of the nerves supplying the external sphincter must be avoided, otherwise a permanent paralysis of that muscle may follow.

NEPHRITIS, WITH REPORT OF THREE CASES.*

BY J. W. KELLY, M. D., SPRINGFIELD.

In presenting to you a paper on nephritis, I do so with many apologies, for I know well that there are few diseases on which more has been written in recent years, and by men far more proficient, consequently I feel as though I can offer nothing to your store of knowledge, but think this paper will be productive of some good if I can do no more than impress you with the great prevalence of this much dreaded disease and the importance of being at all times on the alert, so as to not fail in making an early diagnosis; but while giving special attention to prevalence and the importance of its existence, the principal object of this paper is to report three cases, each representing one of the three common forms of nephritis, viz: Acute parenchymatous, chronic parenchymatous and chronic interstitial; as it is not my purpose to say anything about the suppurative diseases or amyloid disease of the kidneys.

It is my intention to avoid anything of the nature of a text book discourse; still, in speaking of causes and diagnosis, I will occasionally have to mention pathology and symptomatology, because they cannot well be separated.

Classification: Ever since 1827 when Richard Bright called attention to the associated symptoms in kidney diseases, there have been numerous attempts at classification; such men as Virchow, Kelsch, Traube, Lancereaux, Klebs, Bamberger, Cohnheim and others, sought to establish a classification, but did not succeed in rescuing it from that state of confusion in which it existed for so long.

In 1897 at the twelfth International Medical Congress at Moscow, Dr. Brault, of Paris, read a paper discouraging the two forms, parenchymatous and interstitial, holding that acute and chronic is the correct classification, using the following words: "A clinical classification is possible only as regards duration; in all cases of nephritis in which the duration is prolonged, we see constantly hypertrophy of the heart. It is therefore useless in the understanding of nephritis, to have recourse to the old divisions of parenchymatous and interstitial, for if we have (1) the cause of the nephritis, and (2) the date of its appearance, we possess sufficient data to explain what has already taken place; to forsee the future course, and to deduce the corresponding anatomical form."

At the same meeting, Dr. Crocq, of Brussels, in support of a statement that parenchymatous and interstitial nephritis were two distinct conditions, made the following statement: "Albuminuria is due to a desquamation of the epithelium, and we cannot have even a so-called physiological albuminuria, a transitory condition without such cause, although the cause of the albuminuria might be of short duration, and so escape our notice. Moreover, usually a parenchymatous inflammation of the kidneys is the cause of the excretion of albumin which almost invariably points to

*Read at the Fiftieth Annual Meeting of the Illinois State Medical Society, Springfield, May 16, 1900.

chronic Bright's disease. Interstitial nephritis is quite another thing; in this we have an inflammation of the connective tissue which binds together the parenchymatous elements. If the epithelium is not affected there is no albumin in the urine; but if the inflammation extends to the epithelial elements, it at once appears. Clinically, therefore, the author would distinguish two kinds of chronic nephritis; one with,, the other without, albuminuria. These are identical with the anatomical forms distinguished as parenchymatous and interstitial.

It is evident that we are not yet all agreed on a uniform classification, but I will make use of the classification most generally accepted, viz: parenchymatous and interstitial.

The complications and consequences of nephritis are so grave that we should never fail to examine the urine in any suspicious case, and it gives evidence of kidney disease so often that I have many times been forced to think of the following words by Dr. Webster while I was a student: "Always examine the urine unless you are sure there is no trouble with the kidneys; but we are never sure, so that means that we should always examine it."

The causes are so numerous and the prevalence so great that we should above all things obtain a full history.

In acute parenchymatous nephritis, we understand the cause in most cases more clearly than in any other form. Scarlet fever has always stood at the head of the list; a fact with which we are all familiar, and our knowledge that nephritis is its most frequent and dangerous complication should be sufficient to prompt us to think of the kidney as soon as we have made the diagnosis; one author places the frequency of scarlatinal nephritis at eighty per cent. Diphtheria occupies second place in the minds of the majority of the profession as an etiological factor, and it certainly is the cause of terrible destruction of the kidneys, and I believe that in many cases, before the introduction of antitoxine, death was due directly to involvement of the kidneys.

Exposure to cold, particularly after perspiring is recognized as a frequent cause. The infectious diseases including the eruptive fevers, extensive burns and other diseases, also certain drugs familiar to you all, are probably to be included in the etiological list.

Councilman describes an acute interstitial nephritis; Weichselbaum also one of a suppurative character and says: "It occurs metastatically, (apart from pyelonephritis) in pyemic processes, and consequently always due to bacteria; mostly pyococci which plug the glomerular loops, or the small blood vessels."

Tyson mentions a case in his own practice, in which "a splinter lodged in the toe and produced an abscess in the thigh; this abscess was followed by a typical acute nephritis."

A great deal has been written on the nephritis of pregnancy, and not without very good reasons. And from the possibility of the disease becoming chronic, that terrible malady, eclampsia, no matter what's its cause, is enough to cause us to not overlook the kidneys. I said no matter what its cause; but eclampsia nearly always associates itself in the mind of the physician with some disturbance in the kidneys. Frerichs, Spiegelberg, Traube, Rosenstein, Landois and others have theorized on its cause, but as far as I can learn, we know of no organ so frequently involved as the kidneys. Jewett in his late work on obstetrics says that "the kidneys are involved in about two-thirds of the cases, and in eighty-four per cent the urine contains albumin in quantity varying up to 2.5% or more. This albuminuria may be due to a pre-existing renal disease, manifested by its appearance in several successive pregnancies, and disappearing in the interval;" but, taking pregnancy in general, Jewett has determined by observation of a large number of cases that from five to ten per cent of pregnant women have albuminuria.

It is stated by many that we have such a condition as physiological or functional albuminuria; but it is difficult for me to understand how albumin can pass through a healthy kidney; if it is excreted for only

ever so short a time, it is reasonable to suppose that during that short time, the kidney is in an abnormal condition; and if it is in an abnormal condition for a short time, it needs watching. I will again refer to Jewett; he says that "in all cases it must be assumed the presence of albumin in the urine has in greater or less degree a pathological significance; a strictly physiological albuminuria does not exist." In speaking of the puerperal state, he makes the following forcible statement. "Albumin may be found in some cases, due to a temporary renal hyperemia, but its presence must be abnormal, and its persistence is always of grave import."

Notwithstanding all of this, how many of us try to prevent an attack of eclampsia by determining the condition of the kidneys, and if disease exists, give the necessary treatment? I think the number that receive no attention is greatly in excess of those who are properly attended to. True, many times we know nothing of the case until we are called at time of labor; but it is our duty to endeavor to educate the people in that direction and teach them the importance of placing themselves under the eye of a physician early in gestation. This same law holds good in the diseases previously mentioned; many cases of scarlet fever, diphtheria, and other diseases, are conducted to the end, let it be recovery or death, without even once examining the urine; such neglect deserves severe criticism when we stop to think of the great prevalence of kidney complications in such diseases.

It is only during the past year or two that I have noticed much said about acute gastro-enteritis and malaria as causative factors in nephritis. Koplik of New York has given close attention to acute nephritis complicating gastro-enteritis; an able article from his pen appeared in the Medical Record of April 1, 1899.

He makes the following statement: "I have been astonished at the frequency of this complication of intestinal disorder of infancy. I have also in the severe cases of intestinal diarrhœas, found that the nephritis gave distinct symptoms which could be directly attributed to the existence of disturbance of the functions of the kidney." He found almost complete suppression of the urine in severe cases, and on examining the few drops of urine drawn with a catheter, he found albumin and casts of all kinds in abundance; also leucocytes, blood, and renal epithelium. He reports twenty-five cases of gastro-enteritis with involvement of the kidneys in twenty-one; and some of them very severe; two showing blood and blood casts. Some of these children were very young; in one four months old, the urine contained albumin, but no casts; and in one five months old, it showed albumin, hyaline and epithelial casts.

As an instance of the virulence of the infection and the rapidity with which it traveled to the kidneys, he mentions one case in which on examination of the urine, no albumin or casts were found, but in one day there was suppression of urine; but before complete suppression, it was found to contain hyaline, epithelial and blood casts and leucocytes; the child recovered, as did others almost as bad; but it is not likely that it would have recovered if he had not directed his attention to the kidneys. How strongly do we deserve censure for not going to the bottom of our cases as Dr. Koplik did? The majority of us see nothing in such cases except the intestinal trouble unless by accident the mother discovers when it is almost too late, that there is almost complete suppression of urine.

Malaria has not received its share of attention in the etiology of acute nephritis. Thayer, of Johns Hopkins University, in a paper read before the New York Academy of Medicine stated that "in 768 cases of malaria treated at Johns Hopkins Hospital, albumin had been present in 44.6 per cent and casts in 16.6 per cent. He says the frequency of albuminuria in the æstivo-autumnal fevers is almost as great as in diphtheria, and is usually subacute and occasionally passes into the chronic form."

The following is a case seen by myself: March 3, 1899. Charles F., age 3 years, had bronchitis when seven months old.

Had four convulsions in one day when a year and a half old; attending physician said they were caused by intestinal derangement; since that time he has been constipated. Present illness—For past two weeks he has been having a chill every day followed by a fever and sweat; chill does not come at any regular time. The urine leaves a heavy pink stain on clothing. Temperature 104.6; pulse 146.

Treatment—Calomel and moderately large doses of quinine. Diet—fluids. Two days later temperature 101; pulse 128. Bowel movements, one per day. Was not able to obtain any urine, as none was voided except when bowels moved. There was restlessness and pain in occiput, he refused water; sweats almost constantly. Discontinued quinine and gave potassium acetate every three hours. On the following day, March 6th, temperature rose to 104.4; pulse 120. Bowel movements, two in twenty-four hours; urine dark and scant but still unable to collect any. On the following day temperature 103.1; pulse 106. Bowel movements none in 24 hours; urination quite free and about color of weak coffee, with a dark stringy sediment; specific gravity, 1016, strongly acid reaction. Urea 1.5 per cent; albumin present in abundance; the microscope revealed granular epithelial and blood casts and kidney epithelium and red blood corpuscles.

I continued calomel and potassium acetate with a milk diet, along with symptomatic treatment, and on March 20th, seventeen days from the beginning of the treatment the urine appeared normal, but the specific gravity was only 1008 and twenty six ounces of urine in 24 hours.

The specific gravity remained the same for six days and there was a very slight irregularity of the heart with some accentuation of the second pulmonic and second aortic sounds. From this time he continued to improve but his convalescence was slightly disturbed by an occasional rise of temperature sometimes as high as 100; his pulse remained from 90 to 100. He was discharged cured April 20th, about seven weeks from the time I first saw him. I have seen him occasionally since that time and there has been no return of the renal trouble.

Chronic parenchymatous nephritis while in many respects similar to both acute parenchymatous and chronic interstitial has some points characteristic of itself before it reaches the stage of contraction; for at that stage a differentiation between it and interstitial nephritis is very difficult without an accurate history. Microscopical sections exhibit alteration of normal and choked tubules alongside of other places in which the tubules together with the Malpighian bodies at their extremities are obliterated. Between them is found a large amount of interstitial tissue, and the Malpighian bodies are surrounded by concentric layers of the same. The secondary origin of this form of kidney is not conceded by every one; some claiming an independent primary origin. While we always wish to make an accurate diagnosis, it is not of so much importance at this stage, since the course is about the same as in the primary contracted kidney as is also the treatment.

The majority of these cases come on insidiously, hence we do not see them very early; still, if we obtain a complete history, we can usually establish a diagnosis, and save the patient a great deal of sickness and discomfort. There are not many factors that we feel certain are concerned in the etiology; it may be a continuation of an acute nephritis. Scarlet fever, even though it existed several years previously, is considered one of the most frequent causes in this as well as in acute nephritis; pregnancy plays a strong part; habitual exposure to cold and dampness may sometimes be a cause; and as in the acute form, malaria is also of importance; this is emphasized by the German writers. Phthisis is undoubtedly a cause.

Again I urge the necessity of inquiring into the history, and whenever we find that the patient is weak, and easily fatigued and has some dyspnœa and headache which is persistent, and digestive disturbance, it is almost criminal not to examine the urine. There is usually the pale waxy appearance

of the skin, and even though it may not pit on pressure, there is often that puffiness of the skin, which is not common in any other disease.

I had a case of that kind less than a year ago, and made frequent examinations of the urine, but found nothing abnormal; still, I was all but sure that nephritis existed, and by persisting in my examination of the urine I finally found plenty of albumin. Another case came under my care whose great complaint was persistent vomiting, and she was suffering from malnutrition of an extreme degree, and was of course bedfast; she had been treated for one year, part of the time by a homeopathic physician, and part of the time by one of our own school, both of them competent men, and during all of this time was receiving treatment for indigestion. There was slight edema of the lower extremities, and an examination of the urine revealed a plain case of chronic parenchymatous nephritis. She died about one month later. Might not her life have been prolonged if the urine had been examined one year sooner? I think it would.

The case I wish to report under this head is as follows:

Aug. 13, 1899. John C., age 17 years applied for treatment for double suppurative otitis media.

History—Parents living and healthy. Four sisters healthy. One sister eleven years old has never been a very strong child, and at present has an obscure fever, which lingers at about 99 degrees. One brother age 25 has recently had appendicitis, and at one time had pneumonia, and is now in North Dakota on account of his health; he has what we might call a tubercular appearance. One uncle on father's side died at the age of 32 of phthisis and another died at 23 of the same disease. Maternal grandmother had several brothers who also died of phthisis.

Patient had pneumonia a year and a half ago; he is a listless sort of a boy and complains of being weak and tired; his temperature is 97; pulse 76.

Treatment—Bitter tonics for two weeks, at the end of which time, he returned and complained of his usual tired feeling, a capricious appetite and frontal headache, and said that sometimes when reading he was compelled to stop in order to rest his eyes. On examination of the eyes, I found sight and muscular action normal, lungs negative; heart apex beat in nipple line, and is slightly irregular; first aortic sound scarcely audible; urine, pale, slightly cloudy, acid, specific gravity 1012, albumin in abundance and very tenaceous; it was so tenaceous that with his family history, I was at first forced to think of tuberculosis of the kidneys; there were also epithelial and granular casts. I placed him in bed and put him on liquid diet with instructions to drink as much water as he could, and gave him calomel and infusion of digitalis.

Three days later, August 31, I was able to learn the amount of urine in 24 hours, which was 48 ounces. Two days later it was still 48 ounces with a specific gravity of 1020 and albumin scarcely discernable. Two days later the pulse had dropped to 46, a reduction of 22 beats in two days. I withdrew the digitalis and substituted Basham's mixture; albumin reappeared two days later, and the specific gravity diminished until at the end of six days, or thirteen days after the beginning of treatment it was only 1001 with plenty of albumin and urea only one-half per cent, but the quantity in 24 hours was 64 ounces. I had been alternating Basham's mixture with infusion of digitalis, as indicated, up to this time, but the pulse never rose above 50 and sometimes it was as low as 40. The quantity remained at about 48 ounces for 24 hours.

On September 20th, three weeks from the beginning of treatment, I allowed him to get up, as I concluded that his anxiety over lying in bed and being starved, as he expressed it, were more injurious than the nephritis, for he was emaciating quite rapidly even though he had been drinking large quantities of milk. At this time I allowed him to eat tomatoes, baked apple, and a small potato. On Sept. 23, the urine had again reached 64 ounces and continued during the time I treated him.

On Sept. 30th, after he had been under treatment for 33 days his pulse rate had increased to 84 and was having from two to three bowel movements daily. Urine was pale, clear and of an alkaline reaction; specific gravity 1013 and feeling decidedly improved, still his urine contained albumin and a few epithelial casts. I gave him Dr. Danforth's favorite perscription of Iron-Citrate; Potassium Citrate, Syrup of Lemon. He thought he was well enough to get along without medical attention and has not presented himself since. I see him occasionally and he looks well notwithstanding his disease.

CHRONIC INTERSTITIAL NEPHRITIS.

This is the one form of nephritis that we meet when the patient least suspects it, and many times we do not suspect it ourselves. It is often found when we are examining applicants for life insurance, and many times a patient comes to us complaining of something apparently foreign to the kidneys, and to his astonishment as well as perhaps to our own, we find albuminuria; and it sometimes has no etiological relation to the trouble of which he complains. In this disease I believe we find in some cases, albumin and casts only at certain times; I believe this is often the so-called physiological or functional albuminuria. Some assert that we may find both albumin and casts, and still have no nephritis. Nephritis is a disease, the diagnostic signs of which are the presence of albumin and casts in the urine. The pathological anatomy of a kidney which excretes these elements is too well understood to say a word on it; therefore, it is difficult for me to understand how we can have albumin coming from a healthy kidney.

Senator says "any, even the smallest amount of albuminuria is a sign of a pathological process in the kidney. Albumin can leak through the filter that was meant by nature to retain it, only when there is an organic affection of the organ."

We do not know the cause of chronic interstitial nephritis in most cases; numerous causes have been mentioned, but a great many of them are probably conjectural; we occasionally see a case which may be a continuation of an acute case. Diabetes Mellitus has been mentioned as a cause, as has also malaria, grief, lead, alcohol, syphilis, tuberculosis, impacted calculi, extension upwards of cystitis, exposure to cold, dampness and privation. One writer asserts that the disease is from one-third to one-half more frequent in men than in women; but says that the disproportion is not so great during pregnancy and gives this as proof that pregnancy is a causative factor. Heredity has also been mentioned. Tyson speaks of one family where heredity certainly did seem to have some weight; probably you all have read it, but to refresh your memories I will give his words as follows: "A remarkable instance of this occurred in my own practice. I was consulted by a man age 30 who had granular kidneys. His father and mother both died of Bright's disease, aged 56 and 63 years respectively. The mother had convulsions. A brother died of Bright's disease, without convulsions, at the age of 37. Two children of this brother had Bright's disease when four and seven years of age. A second brother died at the age of 29 with convulsions. A third and fourth brother aged 23 and and 32 years respectively, have had Bright's disease for six years. A sister, aged 36, has had Bright's disease for five years. A brother aged 26 and a sister, aged 34 have as yet no signs of Bright's disease. A maternal cousin died of undoubted Bright's disease, and other members of the family, belonging to previous generations, died with symptoms which suggest Bright's disease. The patient himself has undoubtedly granular kidney, discovered in August, 1880. An examination of the urine in 1876 revealed no evidences of the disease. There is no gout in the family."

I am now treating a man who came under my care a few weeks ago. He is 63 years of age and complained of pain in his chest, which responded readily to treatment. His family told me that he has for many years been afraid he is going to die of dropsy, because both of his parents died from it, also one brother; he imagined he had dropsy about the lungs and heart.

There were some grounds for his fears, as he lost fifteen pounds in weight in a short time. I felt some reluctance in trying to obtain a history from the patient himself, as his family requested me to say or do nothing that would make him think his trouble was serious; but in a short time he came again to consult me, saying he had slept scarcely any the previous night; he was nervous and short of breath. I examined him and found the apex beat in the nipple line, and the second aortic sound accentuated, and a very slight œdema of the ankles which could be determined only by very deep pressure. On inquiring concerning urination, I learned that it was quite frequent; he said that he arose some times about ten times during the night and sometimes filled the vessel. I examined his urine and found albumin but did not find any casts. I think this is somewhat in favor of heredity being a predisposing factor in the etiology.

Just a word about alcohol. I treated a man with chronic parenchymatous nephritis who had "drank considerable in his time." I put him in bed and on a milk diet, but he emaciated so noticeably that when the excretion of urine came up to about normal I directed him to get up, and gave him a more liberal diet, eliminating nitrogenous material. I expected him to come to the office occasionally, but he came only once or twice. He asked me if I thought gin would be good for him. I told him no. I missed him for a long time but finally met him on the street one day looking considerably improved, and he told me that he had been drinking gin. That does not prove much, but it at least looks like the juniper was stronger than the alcohol, and in his case alcohol was not very harmful. There is not much proof that these causes which I have mentioned have a great deal of weight, but until we learn more regarding the etiology, we must accept them as causes, and never fail to examine the urine if the patient has been exposed to any of them.

Anesthetics certainly do cause nephritis. We have heard a great deal about the care we must exercise in administering chloroform if the patient has a heart lesion; William E. Morgan of Chicago, has kept records of a number of cases covering several years in his own practice, and found that no matter whether chloroform or ether was used, permanent albuminuria resulted in about three per cent of cases. From this, it is very important in taking the history, to learn if the patient has undergone a surgical operation.

Case III. Robert G., age 54 years; retired.

In this case, I did not obtain much of a history, but learned that he was reared in luxury, and had always been a heavy eater; he led an exemplary life; had no bad habits except in eating; his duties were light; he would eat numerous times during the day, and sit around the house reading; taking only very little exercise. He came to me saying that a few days before, he fell and became unconscious in a store, and knew nothing until about two days later, when he regained consciousness and found himself in a hospital; he still felt a little weak and dizzy. On testing voluntary motion, I could discover nothing abnormal except a very slight weakness of the right hand. I interviewed the proprietor of the store in which he was stricken, and from what he said, along with the patient's statements, and the slight weakness of the hands, I concluded that in all probability there was some trouble in the cerebral arteries, and warned him concerning his diet and habits. He followed directions closely for several weeks, reporting occasionally, having no trouble of any kind. He finally fell into his old habits of heavy eating and no exercise. About three months from the time he first consulted me, I was called to his home. I saw him about 8 p. m., Saturday and found him in a semi-stupor. He said his head felt heavy and he didn't feel like going to town that morning. I gave him some calomel and saw him on Sunday, about noon; he said he felt better but I could not see any improvement. After I left him he was seized with a convulsion before I had gone one block from the house. I was not called for several hours, and when I reached him, five hours from

the time the convulsion began, he was unconscious and was keeping up a continuous motion with every limb, and trying to get out of bed. There was no paralysis. Epilepsy suggested itself to me but it was unlike any epileptic seizure I had ever seen; in fact, I had never seen a convulsion just like it. By energetic work I succeeded in getting him to swallow thirty grains of chloral. I then chloroformed him and left him; I returned in about an hour and found him conscious and able to recognize me.

On the following morning (Monday) I obtained some urine, and found it of a high color, acid reaction, specific gravity 1035, and it contained albumin and hyaline casts. There was no accentuation of the aortic second sound. I gave him cathartics and diuretics, and instructed the attendants to push fluids as energetically as they could. Urine was excreted in about normal quantity and his bowels were kept moving freely; still, he did not arouse from his semi-comatose state, and he died on the following Friday, five days and five hours after the convulsion took place. This convulsion did not give a typical picture of apoplexy, epilepsy, or uremia, but the coma and condition of the urine spoke for uremia.

CHRONIC GASTRITIS.*

BY JAS. BRAYSHAW, M. D., BERLIN.

It is not without some hesitation that I undertake to present a paper on this well-known subject; but I feel confident that you will pardon me for my feeble effort when I tell you that it is not my intention to consider it from the standpoint of the specialist, nor to give a complete rehash of the literature; but simply to give a few suggestions for the general practitioners, of whom I am one.

If one is to judge by the results, viz. the number of people we find suffering with this condition, who have been pushed from pillar to post and after trying a number of reputable physicians, drift into the hands of quacks and charlatans or the habit of indulging in patent nostrums and at last go to a hospital to die, one would think chronic gastritis the *bete noir*, of the general practitioner. I do not think this is so much the fault of our methods as of those whose duty it is to apply them, and those who seek relief, for a large majority who go to a hospital to die, are surprised after a time, to find that they do not die, but are improving.

As stated above, I believe it to be in part the fault of the physician and in part that of the patient that the majority of these people do not get well without going to a hospital. As proof of this, I have, on more occasions than one, been sitting in a physician's office when a patient entered, complaining of symptoms that clearly pointed to some form of gastric disease. The physician, without trying to make a diagnosis of the real trouble, would pour out a bottle of "lime-juice and pepsin" or "wine of pepsin," direct the patient to take a teaspoonful after meals, charge him a dollar and send him home with instructions to return if that did not cure him. On a number of occasions I have poured out a sample of the medicine, with the excuse that I wished to try it, carried it home with me, and was not greatly surprised to find that it contained neither lime-juice, wine of pepsin—not as greatly surprised, indeed, as the physician who does this kind of practice is, when, after a few visits he finds that his patient, who has failed to improve, ceases his visits and either takes to the patent nostrums or drifts into the hands of the charlatan.

In so far I believe the physician was responsible for his failure. But there is a class of patients who quit treatment when temporarily relieved, despite every effort on the part of the physician, and another class who expect to be cured with half a dozen doses of medicine of a disease that has taken months or perhaps years to progress to its first stage. For his failure to cure these classes of patients the physician is not responsible, and we can simply say that the physician who has such patients,

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and we all have, is to be pitied. Perhaps the patient, too, is to be pitied.

Diagnosis: For the last century and a half the researches on the stomach have gone on until our present knowledge of its anatomy and chemistry, is such, that we are forced to say there is no class of disease which can be more accurately diagnosed than those of this organ.

The diagnosis cannot be made from the symptoms alone, as they may accompany many abnormal conditions of the stomach. They are, however, of some importance in connection with the cause of the disease and the examination of the stomach contents, for the symptoms of chronic gastritis are so often confused with those of the conditions that cause it, that it is often impossible to draw a definite clinical picture of the affection.

I will borrow the language of Dr. Stockton of Buffalo, N. Y. "The gastric mucous membrane has so much resisting power that it practically ignores insult after insult offered it by dietetic errors, alcohol or other irritants. A few years ago almost every symptom complex of the stomach was at once set down as due to sub-acute or chronic catarrhal gastritis, and even today the profession has not cut loose from this short sighted, erroneous and superficial habit. In point of fact, chronic inflammatory affections of the stomach are not very severe except as a result of grave organic disease located in the stomach or elsewhere. In many chronic diseases; as for instance, the anemias—the stomach is the organ that bears the brunt of the complaint of all the cells of the body, and it is not surprising that it should be chosen to cry out and rebel in the cause of the complaining cells depending upon it; but the point we wish to make is that gastritis exists in but a small proportion of these cases, and if the stomach and its contents are carefully studied there will be less often a hasty diagnosis of one or another form of gastritis."

When a patient calls on a physician and complains of the symptoms which we all recognize as pointing to some form of gastric disease, viz: Impaired appetite, feeling of distress or oppression or may be actual pain after eating. Pain when the stomach is empty (either trifling or of extreme severety, either localized in the precordial region or below the end of the sternum in the region of the stomach) pain more or less severe on pressure over the stomach. Tongue coated with tip and margin very red. Bad taste in the mouth and stomatitis more or less severe. Increase in the salivary and pharyngeal secretions sometimes causing them to dribble from the mouth. Nausea and vomiting after eating, marked distention of the intestine, eructation of gas, and may be fluids either sweet, sour or bitter are brought up with the gas, constipation or may be diarrhoea, the food passing through as it was eaten, or there may be alternate constipation and diarrhoea. The urine may be scanty, highly colored and of high specific gravity and may deposit urates, or may be clear and of low specific gravity resembling that of chronic nephritis; but does not contain albumen. There is usually headache, indisposition, low spirits and in aggravated cases, melancholia may be developed. Vertigo is frequent, the pulse is slow and there is usually palpitation of the heart—I might call attention to this as being the symptom that most frequently causes the patient to consult a physician—they come with their own diagnosis of heart disease. There may or may not be cough, loss of flesh and an anemic condition.

When the above symptoms or a reasonable number of them are present and there are not others that point to some other organ as the seat of the disease, an examination of the stomach and its contents is clearly indicated. Find out by inflation, auscultation and percussion the exact outlines and capacity of the stomach. Find out by means of the test breakfast and stomach tube its motor power.

It seems a waste of time to describe either the instruments or the technique for examining the stomach, but I cannot miss the opportunity of entering a protest against the use of the tube recommended by Dr. Hemmeter which, "although quite

soft is provided with a sharp chisel like edge around the lower opening" for the purpose of loosening pieces of carcinomatous tissue. I know that such an instrument would be dangerous in my own hands, and believe it would also be in the hands of those more skilled than myself.

One hour after the Ewald breakfast of a roll and water, the stomach should not exceed forty c. c. If it does, its motor power is impaired or there is some other defect in the way of either absorption, or pyloric stenosis may be expected.

We may also say that a stomach with its lower border as low as the unbilicus, its upper border being in the 5th interspace in the left mammary line, is wanting in motor power and we may suspect fermentation. Fermentation and dilatation, one or both, are usually present in chronic gastritis, but chronic gastritis is not always an accompaniment of the two former. Fermentation may be accurately estimated by an apparatus devised by Dr. Kelling of Dresden, and fully described by Dr. Hugh Hamilton in the Transactions of the First Pan-American Medical Congress, Part 11. By this method the gas set free by the fermentation is collected over mercury or other suitable fluid and measured. By this instrument not only the amount but the rapidity of the fermentation is accurately estimated. To estimate the fermentative condition, a portion of the stomach contents is withdrawn after definite meals, in periods of from one to four hours, then the ingesta placed in a bottle and raised to the temperature of the person's body, kept there until fermentative action ceases, or for a given time when the oven into which the bottle has been placed indicated the average proper body temerature of the particular individual, the bottle or flask is connected with Dr. Kelling's apparatus and the amount of gas eliminated from the food mixture read off at designated intervals.

The chemical and microscopical examination of the stomach contents are too well laid down in numerous text books to necessitate even a passing notice in an article like this. We usually find hydrochloric acid diminshed or absent. Total acidity may be increased or diminished. Lactic acid most frequently and other organic acids sometimes present. Mucus is always found in abnormal amounts. We believe food stasis is always present in a more or less marked degree, and without it chronic gastritis except, rarely, as the result of a diseased condition of some other organ, cannot exist. Fermentation is seldom absent and the digestive power of the gastric juice is invariably decreased. So unfailing is this rule, that an examination of the digestive power (which requires but little apparatus, time or skill) when taken in connection with the symptoms, capacity and contents of the stomach, will furnish an indication for treatment that will enable us to avoid many of the errors pointed out above, and would. be to the advantage of both the physician and the patient.

Treatment: In the treatment of this condition, I believe that even those who are careful in regard to diagnosis and who cure their patients, are in the habit of failing to reach the prime cause in the most direct route i. e. fail to remove the atonic condition of the stomach walls and consequently fail to permanently remove the inflammation. Whether the atonic condition of the stomach walls be the cause of the gastritis or merely an accompaniment, it matters not, for as long as food stasis remains, just so long will inflammation remain, or if removed, will almost certainly return. Therefore it is essential in the treatment of chronic gastritis that we bring the stomach walls as well as the mucous membrane to as nearly a normal condition as possible. Salycilic acid and sodium benzoate are not to be forgotten in cases of fermentation and nux vomica and ergot will stimulate secretion and also increase the muscular activity of the stomach walls. The deficiency of gastric juice is to be supplied, not with pepsin, but with hydrochloric acid for pepsinogen is usually present. Intestinal tonics, laxatives and antiseptics are to be given as indicated in the particular case in hand.

These alone are not usually sufficient

and when they do bring about the desired result, their action may be greatly augmented and the course of treatment shortened by the use of certain mechanical appliances. The first of these to be mentioned is the stomach tube which not only cleanses the stomach, but also stimulates the muscular walls.

Another method of treatment may be by the use of abdominal massage. This may be done more or less perfectly with the hands if one is a skilled masseur, or by rolling a metal ball over the abdomen.

One method that I have not seen recommended, but which has given excellent results in my hands as an adjunct is by means of the interrupted and alternating galvanic current passed diectly through the stomach walls. The current may be passed through the stomach walls by placing the electrodes on the outside of the abdominal walls back and front or much better by passing a sound into the stomach and placing an electrode over the stomach or the outside of the abdomen and connecting the other with the sound. The treatment is given from two or three hours after a meal and lasts from ten to twenty minutes.

I believe this is better than the positive electricity as recommended by Einchorn and others, as when properly applied it will completely empty the stomach and at the same time stimulate the secretions. As to diet it has been my custom to allow a moderate amount of anything that does not cause distress after eating, but it is sometimes necessary to completely cut off very fat meats, alcohol, condiments of the aromatic kind, hot bread and pastry and restrict many others. This, however, can be best arranged for each individual patient, as there is no disease in which is more nicely illustrated the old saying "What is one man's meat is another man's poison."

It was my intention to report a few cases illustrating the results of what was almost completely mechanical treatment, but have already taken more time than I expected. Will omit them and let each one find his own illustrations.

STERILITY IN THE MALE.*

BY EMIL RIES, M. D., CHICAGO,
Professor of Gynecology, Post-Graduate Medical School.

When a husband and wife who desire a family find themselves without offspring after some time of married life, as a rule the wife is urged to seek medical advice. The physician whom she consults is frequently, all too frequently, satisfied with making a gynecological examination. He makes his diagnosis and arranges his treatment according to the data furnished by such an examination, which reveals to him a more or less likely cause of the sterility. Such a procedure is always unscientific and frequently the cause of much unnecessary suffering. For what is the use of treating the wife for sterility if nothing is known concerning the condition of the reproductive organs of the male?

The result of a number of careful clinical as well as pathological investigations have proven the male to be the cause of sterility of matrimony in over 30 per cent of all sterile matrimonies, and this fact alone suffices to discredit all attempts at treatment of the female alone in cases of sterility, unless it is determined that the male is in full possession of normal organs with normal secretions.

The sterility of the male may be of two different kinds—it may be due to impotentia cocundi or to impotentia generandi, to an inability to perform the sexual act, or to a lack of normal secretion.

The discussion will be limited here to the latter of these defects, to the impotentia generandi, and more especially one kind of this species. Under the head of impotentia generandi two conditions are to be classified, the one being aspermia, the absence of discharge in the sexual act, the other being the more frequent and more important condition of azoospermia. I shall discuss here only the latter.

The condition of azoospermia is characterized by the discharge of a fluid in the sexual act which, though absolutely like

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the normal fluid in color, consistency, odor, and quantity, differs from it by the lack of the most essential factor, the spermatozoon. It is perhaps not superfluous to emphasize the fact that nothing but a microscopic examination of the fluid can enable us to make a differential diagnosis between the normal and the sterile semen.

We are sufficiently well informed as to the frequency of this condition of azoospermia as a consequence of various morbid conditions. After bilateral epididymitis the combined statistics of Gosselin, Godard, Liegeois, Terrillon, Bergh, Neisser, Noeggerath, Kehrer, Lier and Ascher, as collected by Finger,[1] show azoospermia in 207 out of 242 cases. Recent investigations of Benzler,[2] however, are more favorable. In his cases only 38.7 per cent were sterile, whereas the rest had offspring. Other diseases which are regarded as important in the etiology of azoospermia are diseases of the testicle, as chronic inflammation, tuberculosis, syphilis, tumors, congenital displacements traumatisms; furthermore, chronic diseases, as alcoholism, obesity, diabetes, general tuberculosis, and to some extent and for a shorter or longer period of time acute febrile diseases.

The facts just mentioned are pretty generally accepted, but the local conditions in the sexual apparatus which are the direct causes of the azoospermia are still little known. The text-books contain very little information on this point, and what little they do contain but too frequently appears copied from generation to generation, and some of the statements are *prima facie* improbabilities.

Under these circumstances I thought it necessary to start a series of investigations of my own. Through the kindness of Prof. Ludvig Hektoen, of Rush Medical College, I have received for examination the sexual organs of one hundred males. I wish to avail myself of this occasion for a public expression of my best thanks to Professor Hektoen, without whose aid it would have been impossible to obtain the necessary material for such an investigation.

The organs were taken from a series of post-mortems without special selection of the cases, in order to reach an approximate idea of the frequency of azoospermia and its pathology in the general run of cases. Taking into account how unreliable the statements of most patients concerning former infections are, I have paid no attention whatever to their histories, and have relied exclusively on the pathological data, as they cannot lie. The post-mortems were all performed by Professor Hektoen or by his assistants, and the painstaking and thorough methods of these gentlemen have placed the pathologic diagnosis beyond doubt.

In the pathology of azoospermia two great classes are to be differentiated, one comprising the azoospermia due to lack of production of spermatozoa, the other comprising the azoospermia due to the obstruction of the system of sperm channels. I shall consider the latter of these two classes first.

Obstruction of the sperm channels has never been observed anatomically in the tubuli recti, in the rete Halleri in the vasa efferentia and the coni vasculosi, but from here on in every portion of the sperm channels, the tail of the epididymis, the vas deferens, the ampulla, the seminal vesicle, the ejaculatory duct. An obstruction can be caused, as in every hollow organ, either by compression from without or by loss of epithelium and obliteration from within.

Since 1847, when Gosselin[3] gave his first report, the compression from without has usually been represented as the most important mechanical obstruction in the way of the seminal flow. But aside from Gosselin's own observations, which were made with the help of injections and which are open to serious objections, no proof has ever come forward in favor of this theory. And when we take into consideration the strength and rigidity of the muscular wall of the seminal channel in the tail of the epididymis, its natural coiled up condition, and especially the possible and probable sources of error in experiments with injection, it appears more and more likely that this theory, though hoary with age, is

nevertheless untenable because anatomically unproven. Not until the compression from without produced by the well known thickening of the tail of the epididymis, the remnant of an acute epididymitis, has been proven anatomically to produce obstruction can we consider this theory well established.

It is, of course, an entirely different matter when we have to deal with a tubercular or gummatous destruction of an entire portion of the vas deferens together with its cavity. Here we have obstruction, but the obstruction is produced less by a compression from without than by the discontinuity of the epithelial tube.

The interruption of continuity of the epithelial channel of the vas deferens is a most potent and not at all infrequent factor in the production of azoospermia, as my own observations as well as those of Simmonds[4] have proven. These obliterations of the vas deferens are actually observed and are so readily demonstrated that it appears remarkable that they should not have been recognized long ago as the true cause of obstruction in the vas deferens, in the place of the compression from without which has been handed down from author to author and has been accepted without controversy.

The complete stages of this obliteration show a vas deferens which is composed only of the external and middle muscular coats, while the mucosa, and frequently also the internal longitudinal muscular coat, are transformed into a mass of cicatricial connective tissue without a trace of epithelium. In two males in whom I found such complete obliteration, the findings in the other parts of the sexual apparatus warranted the diagnosis of tuberculosis in one and of syphilis in the other case. In two additional cases in which such occlusions were found, neither syphilis nor tuberculosis could be demonstrated. The stages preceding complete obliteration I have repeatedly had occasion to observe. In the more advanced stage the epithelial lining is defective, the cells being very small, more like endothelium, and not standing in two rows as they normally are. The lumen of the canal also shows changes, being transformed into a narrow and often twisted and distorted cleft. In other cases the epithelial lining is almost or entirely perfect, but the wall just outside the epithelial lining shows complete absence of the normal tissue of the mucosa, and instead of that a ring of hyaline tissue poor in nuclei and forming a rigid layer under the epithelial lining. We have to deal, then, with strictures of the vas deferens, or merely with changes in the wall apt to disturb the normal function.

In the portion of the vas deferens where it joins the seminal vesicle we find normally an enlargement of the size of the vas and of its lumen. This portion, the so-called ampulla of the vas deferens, may be completely occluded, as I have observed in two cases, so that a cross-section, instead of showing the numerous epithelial sinuses, shows nothing but a mass of fibrous cicatricial tissue in a ring of muscular bundles. Sometimes remnants of the normal glands are seen detached in the wall of the ampulla, slightly dilated, but without any communication with the vas deferens, and therefore never containing spermatozoa. In another number of cases the same hyaline zone which has been described in the vas deferens has been observed surrounding the epithelial lining of the ampulla.

Obliteration of the seminal vesicle in itself does not mean any direct obstruction to the flow of the semen from the testicle to the urethra, as the semen might pass on directly from the vas deferens into the ampulla, into the ejaculatory duct and the urethra. But from physiological experiments of Rehfisch[5] and others it is likely that obliteration as well as removal of the seminal vesicles interferes seriously with the normal function. I have observed total or partial obliteration of the seminal vesicle in three cases. In other cases I have found the hyaline degeneration of the wall of the seminal vesicles which corresponds to the same process in the vas deferens, and may be the anatomic explanation of cases of spermatorrhea, the seminal vesicles losing

by the hyaline degeneration their normal ability to expand with the increasing amount of their contents.

The next portion of the channel through which the semen has to pass is the ejaculatory duct, which is embedded in the tissue of the prostate. Finger[5] has claimed to have observed cases of obstruction by obliteration of this part of the channel by the formation of scar tissue following posterior urethritis with small abscesses of the prostate. But his descriptions must on closer examination appear very unsatisfactory and doubtful, though they are much repeated in his own writings and much quoted by other authors who have never themselves seen such obstructions. The objections which I have myself been compelled to raise against Finger's statements are the following:

1. In his macroscopic descriptions he mentions the presence of areas of cicatricial tissue on the colliculus seminalis by which the openings of the ejaculatory ducts have become occluded. In his microscopic descriptions, however, it is just the orifices of the ducts which are not obstructed, whereas the deeper parts show an apparent obliteration.

2. Finger does not say anywhere that he has examined the prostates, which form his material, on series of sections. It is true that sections may show the orifices of the ducts, also the more distant parts of the ducts and an apparent obliteration between the two. But unless the prostate gland has been cut in complete series of sections, it is absolutely impossible to state whether the duct really is obliterated or whether its course follows such a curve that parts of it which are contained in one section do not appear in other sections at all. I may mention here that I have examined every one of the prostrates with ejaculatory ducts, which form my material, on complete series of sections—about three hundred sections to each of the ten prostrates examined.

3. As proof of the obstruction to the seminal flow Finger mentions furthermore that in the cases which he believes to have found obliterated he has observed the ejaculatory ducts filled with spermatozoa. I have examined ten prostrates, in none of which the orifices of the ejaculatory ducts were occluded, and in every case where the testicles produced spermatozoa the ejaculatory ducts contained them in larger or smaller numbers, so that this appears to be a normal condition of the dead prostrate.

4. Finger's statement that he found the ducts dilated behind what he believed to be an obliteration is worthless, because this dilatation also is a normal condition due to some terminal or post-mortal processes which fill the ejaculatory ducts with spermatozoa.

The tissue surrounding the ejaculatory ducts has been found sclerosed, poor in nuclei, undergoing hyaline degeneration, by Finger,[6] myself, and others, but it is not probable that this alone is sufficient to give rise to an obstruction of the flow of semen. In my anatomical observations at least these hyaline ducts were filled with semen just as well as the normal ones.

It is possible that the ducts being embedded in the non-yielding, firm tissue of the prostrate may be compressed from without by the formation of tumors of cystic or adenomatous or fibroid or mixed nature, or by abscesses of the prostate. I have observed both abscesses and tumors of the prostate, but none of them produced a sufficient compression of the ducts to give rise to obstruction.

The obstructions farther on in the male sexual tract, though important for the question of sterility in the male, do not come under consideration here as they do not produce azoospermia. The obliterations which are anatomically demonstrated to be productive of azoospermia are those of the vas deferens in its various portions down to the ampulla, and of the seminal vesicles.

As to the etiology of these obliterations and the stages preceding them, the structure of some of the most pronounced cases characterizes them sufficiently as tubercular. In other cases, however, their origin is less clear. But as the changes are of a chronic, not of an acute, nature, as they

correspond to chronic changes produced by infections in other organs, there is little doubt that we have to attribute them to a similar causative factor. Taking into consideration the frequency of inflammatory affection of the vas deferens in gonorrhea and the absence of characteristics of any other infection in these cases, we are probably not far from the truth if we assume that these cases are due to gonorrheal infection. But it would be going too far to classify them all as gonorrheal cases, as other infections appear to be able to produce similar pathologic conditions. In the absence of bacteriologic investigation of these cases I do not wish to go further into this question.

Now an interesting question in physiology has to be raised. We know that usually, when the normally present excretory duct of a gland is obliterated, this gland undergoes speedy degeneration, and we know from experimental as well as pathologic data that this holds true in glandular organs generally. The testicle makes a most remarkable exception in this regard. It has been demonstrated experimentally that after artificial obliteration of the vas deferens, produced by cutting and ligating the duct, the testicle does not always undergo atrophy. My pathologic observations as well as those of other observers, especially Simmonds,[4] proved this to hold good also in cases of pathologic obliterations of the vas deferens. With the exception of the case of syphilis, where the testicle was also destroyed by the disease, all of my cases of obliteration of any portion of the vas deferens presented normal function of the testicles with enormous quantities of spermatozoa in the portions of the seminal channel located between testicle and obliteration. Even macroscopically it could be observed that these portions of the vas deferens were dilated by a thick, whitish mass. If the physician keeps these observations in mind, he will find himself able to diagnose this condition of obstruction on the living subject, a point of the greatest importance with regard to a possible operative treatment and cure of these obliterations.

Ever since Gosselin's first publications the obstruction of the seminal channels has received the largest share of the attention of investigators, and the condition of the testicle itself has more or less been neglected. This may be due to the fact that the pathology of the testicle is so extremely difficult and complicated that what some authors consider normal senile changes, others ascribe to syphilis or smallpox, and others again to chronic general diseases or to local inflammatory disturbances.

So much, however, becomes evident, as soon as any number of testicles is examined, that deviations from the normal are extremely frequent. Another condition which makes the pathology of the testicle especially difficult in a consideration of the testicular origin of azoospermia is the fact that the seminiferous tubules show a great independence of each other, so that one tubule may present complete atrophy while neighboring tubules may be in the most florid and active condition. It is therefore necessary to examine many sections from many different parts of the organ before passing judgment on the physiological abilities of the gland. This necessity implies a very large amount of work, so that so far I have been obliged to examine more than 15,000 sections.

Without going too much into the minute details of the pathology of the testicle, I may state that there are two great classes of suspended or destroyed spermatogenesis, that with and that without associated symptoms in the connective tissue surrounding the seminiferous tubules. At the present stage of our knowledge of human physiology we can speak only of arrested or suspended spermatogenesis as long as we find any normal spermatogonia. Not until these too have disappeared and the sustentacular cells are the only remnants of the epithelial lining of the seminiferous tubules have we any right to assume complete and definite destruction of spermatogenesis.

In the small series of cases in which I have found aspermatogenesis without

changes of the surrounding connective tissue, this lack of normal action in the testicle is in all cases a partial one, so that some portions of the testicle show normal activity while other portions show considerable changes of the epithelial lining. The pathologic tubules then present either a single layer of epithelium composed of spermatogonia and sustentacular cells, or in cases further advanced even the spermatogonia have diappeared and nothing but sustentacular cells are left. While in the other tubules all developmental stages of the spermatozoa can be observed, these pathologic tubules present not a trace of spermatozoa or even spermatocysts or spermatoblasts. Similar observations have been made by Cordes,[7] but unfortunately his report becomes entirely inadequate just at this most important point, because he says nothing definite as to the changes in the surrounding connective tissue, which he mentions only casually. It is true that similar changes occur with and without changes in the surrounding connective tissue; still there are marked differences, and certain types of aspermatogenesis which occur frequently with changes of the connective tissue never are observed without these. Cordes has not separated the two in his report, and this mars the usefulness of his otherwise meritorious work for this particular part of the question.

The infiltration with fat which occurs in cases of suspended spermatogenesis without changes in the connective tissue, and which, as I may anticipate here, occurs also in cases associated with changes in the connective tissue, is frequent and often very marked. The observations of Cordes are very positive on this point and give clear evidence of the physiological occurrence of fat infiltration in the epithelium of the testicle. The amount, however, which is found in these cases can hardly be considered normal, as in many cases it amounts practically to a complete disappearance of the cells protoplasm of the testicular epithelium.

Neither age nor the disease to which the patient has succumbed appears to have any influence on the production of aspermatogenesis without changes in the surrounding connective tissue. This condition has been observed in individuals as young as 24 and as old as 53 years, these men having died from various acute or chronic diseases. It is therefore not clear what is the cause of this aspermatogenesis in these cases.

In the second and much larger class of cases we find as the one pathologic lesion common to all cases of this kind the changes in the surrounding connective tissue. The most marked of these is the formation of a zone of hyaline tissue around the seminiferous tubules in the place of the normal flat connective tissue cells which form the physiologic sheath of the tubules. This zone of hyaline tissue cuts off the epithelium from its supply of nourishment, normally derived from the blood-vessels of the intertubular connective tissue. Its size varies from a scarcely noticeable thin line to a thick band, which by and by usurps the place of the entire seminiferous tubule.

Degenerative changes of the epithelium accompany the formation of the hyaline rings. In some specimens all of these changes occur simultaneously, in others only certain stages are present. Where the hyaline zone is thin we find the epithelium of the tubule either normal, even containing spermatozoa, or the spermatozoa are absent and we find only a few layers of epithelium, or even only one layer, the border-lines between the cells frequently becoming indistinct. There is, however, a distinct cavity of the tubule which is sometimes filled with spermatozoa. With the enlargement of the hyaline zone the epithelial masses are pushed toward the center of the tubule, which appears narrowed, the epithelium itself appears lower, the nuclei become indistinct and may disappear completely. With the further encroachment of the hyaline zone the epithelium is reduced to a very thin, flat layer resembling endothelium and these tubules contain nothing but a few fragments of cells. The advancing

hyaline zone becomes folded and wavy, resembling somewhat the hyaline zone of the corpus luteum of the ovary in its later stages. In the most pronounced cases the lumen of the tubule disappears completely, and instead of a channel lined with epithelium nothing is seen but a more or less wavy and hyaline mass of tissue with very few nuclei, without any trace of the normal testicular epithelium.

These degenerative changes may occur in small portions of a testicle which in other portions contains normally active tubules, but they may also occupy an entire testicle, so that not a trace of normal epithelium is to be found. I have tried to make sure whether a testicle which does not present any acute inflammatory changes can present complete destruction of its epithelium by the hyaline degeneration of the interstitial tissue. I have examined one testicle, for instance, on more than 500 sections without finding one single epithelial duct, and from many testicles 200 and 300 sections have been examined with a similar result. It becomes evident, therefore, that without any obstruction in the vas deferens azoospermia may occur by complete destruction of testicular epithelium and without discoverable syphilitic or tubercular disease. For just those cases which presented the most complete atrophy of the testicular epithelium gave no anatomic evidence of the nature of the process which had worked such destruction. Frequently the rest of the sexual apparatus was found absolutely normal, the epithelium of the epididymis perfect, the vas deferens open—no acute inflammatory changes anywhere.

The only other changes which now and then were found associated with the epithelial destruction were of an endarteritic nature, but were not observed regularly by any means. It is important to notice that, where this atrophy did not comprise the entire testicle, but only parts of it, it did not appear in disseminated patches, but followed the individual seminiferous tubule in its entire extent from the albuginea to the hilus of the testis. It is therefore not probable that this atrophy is due to smallpox, for while it is well known, since the work of Chiari,[8] that the orchitis of smallpox occurs in patches, it is also known that these patches are roundish, in the shape of small abscesses, rather than in the shape of stripes following the seminiferous tubules. It becomes also clear that these atrophic changes cannot be due to syphilitic vascular changes exclusively, because they so frequently are found to affect one or the other seminiferous tubule only, whereas interference with the vascular supply due to syphilis could not but affiict more than one tubule, a conclusion which is warranted by the normal anatomy of the testicular vascularization.

It is perhaps necessary to mention that the rete Halleri, the vasa efferentia, and the epididymis have been found absolutely normal in most of these cases; but the vas deferens or the seminal vesicles frequently showed hyaline degeneration of their walls associated with the hyaline zone present in the testicle. It is therefore more likely that the same process which led to this chronic affection of the vas deferens also affected some, or many, or all of the seminiferous tubules, reaching them not on the path of the circulating blood, but along the vas deferens —in other words, an infection which usually creeps along the mucous surfaces, very likely gonorrhea.

It is evident that the larger the reduction in size of the active seminiferous tubules, the greater the possibility of interruption of normal spermatogenesis, and the more probable a condition of diminished numbers of spermatozoa or oligospermia. Here also we find the anatomic basis of the clinical observation that when no spermatozoa can be found in the semen in the first specimen it is necessary to examine repeatedly in order to form a correct idea of the physiological abilities of the testicles.

The condition described here is most frequently bilateral, but may be more pronounced on one side than on the other. Both testicles may present complete

atrophy due to this condition. Wherever this condition occurs, it can be recognized macroscopically, not necessarily by the size or consistency of the testicle, but by the whitish, homogeneous stripes on the cut surface of the organ.

Fuerbringer,[9] the father of the scientific interpretation of these conditions, has advanced our therapeutic ideals by introducing the plan of the surgical investigation of the testicle and its excretory ducts. He has advised in certain cases to lay bare and excise the epididymis in order to investigate its contents. In a case of an obliteration of the vas deferens surgical interference does not appear hopeless. Experimental anastomosis of divided ends of the vas deferens has been practiced successfully on the dog by Van Hook.[10] It has been practiced on the human being after the unintentional division of the vas deferens in hernia operations, but the success in these cases is of course much harder to prove.

If no dilatation of the vas deferens or the epididymis indicative of an obliteration is found, it would be correct to split the testicle and examine its cut surface; also to examine some testicular juice squeezed out from the cut surface. The uncertainty, which is the worst torture of patients afflicted with these troubles, can thereby be settled one way or the other in the most reliable manner possible. Suture of the split testicle is neither difficult nor dangerous.

Cases of azoospermia due to obstructions in some part of the vas deferens are much more hopeful and much more amenable to our treatment than azoospermia of testicular origin. This much the crude outlines of the results of my investigations presented here are, I hope, well able to demonstrate. And if we can help only a few of the unfortunates afflicted with this kind of sterility, we shall have made another advance in the scientific treatment of a hitherto much neglected and little understood pathologic condition.

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DISCUSSION.

DR. WELLER VAN HOOK, Chicago: I think it would be feasible, in cases of accidental transverse incision through the vas deferens, to reunite the vas deferens by the method which was described by myself some years ago, but such a case has not come under my observation. I think it would be possible also, in cases of stricture of the vas deferens, to remove a portion of the vas deferens and re-unite it. No doubt, also, in very short strictures of the vas deferens, it might be possible to apply to that duct the method which we apply to the ureter and other ducts, a method similar to the Heinecke-Mikulicz, for increasing the diameter of the tube at the affected part.

I wish to say, in concluding these brief remarks, that I believe the pathology and surgery of the vas deferens have only begun to be studied, and that the possibilities in the way of overcoming azoospermia from obstruction of the duct have scarcely been considered.

THE SPANISH-AMERICAN WAR AS SEEN BY THE MILITARY SURGEON.*

BY ALLEN A. WESLEY, A. B., M. D., CHICAGO.
Late Major and Surgeon, U. S. V. I.

Gentlemen:—I confess that I am profoundly grateful for the privilege of presenting to this eminent body some of the experiences which I had in the Spanish-American War, while serving as Major and Surgeon of the Eighth Illinois Volunteers—the only Negro regiment in the service which was officered by men of that race.

Twenty-four hours after the Governor issued his second call the Eighth and Ninth regiments were in Camp Tanner at Springfield.

The candidates who successfully passed the examination given by the Medical Board were assigned in this way:

Eighth Infantry—Surgeon, A. A. Wesley. Assistant Surgeons, E. S. Miller and J. W. Curtis.

Ninth Infantry—Surgeon, Andy Hall. Assistant Surgeons, W. R. Washburn and W. G. Gregory.

*Read at the Meeting of the Military Surgeons of Illinois, Chicago, April 10, 1900.

The surgeons assigned to these regiments now formed the Medical Board which gave the recruits their final examination. The men of the Ninth were examined first; the southern part of the state had sent up some beautiful specimens of physical development, and the rejections were very few. The Eighth also had some fine physiques. One company boasted that it did not have a man less than six feet in height, and five feet six or eight inches was the rule throughout. Broad chests, strong hearts and powerful muscles were these men's inheritance.

While at Springfield the most important diseases with which we were engaged were rubeola and pneumonia. The measles was brought to us by the company from Cairo, Ill., where the disease was then prevailing. These cases were placed in isolated tents, and after recovery were bathed and oiled before being sent to their quarters. The disease was thus stamped out. We had several cases of pneumonia, the most severe of which—through the courtesy of Col. G. N. Kreider—were placed in the St. John's Hospital, where they made a speedy recovery under the cold treatment.

Col. J. K. Marshall was sworn in July 23, and Illinois stood as the pioneer State in giving the black man the right to do and die for his country with "straps" on his shoulders. During the brief interval when we were neither in State nor Government service, Gov. Tanner proved his friendship by doing much to make both regiments comfortable. Mrs. Tanner also daily visited the hospitals, and from her own purse made many purchases for the sick.

I selected two suitable men from each company of the Eighth and had them detailed for special hospital duty. This gave me 24 men for my corps, aside from the three hospital stewards. I retained this system throughout the campaign, increasing the quota when necessary.

The immediate cause of our going to the front was the fact that the drenching diurnal tropical rains and the dreadful Cuban fevers had begun to decimate the ranks of all the United States forces located in and around Santiago. Among these were the brave boys of the First Illinois Volunteers, to relieve whom Governor Tanner suggested that the Eighth Illinois be sent, and he requested Colonel Marshall to get from the regiment an expression on this point. Every man said: "I will go." The war department then ordered us to leave Springfield for New York, there to embark for Cuba on the transport Yale.

Amid the rejoicing and excitement I applied to the mustering officer, Major Ballou, for medicines. His instructions from Washington were that it would be unnecessary to purchase any medicines in Springfield, as I would be furnished ample supplies in New York. I stated that I did not wish to be responsible for moving 1,300 men without medicines, and that if he would give me a letter relieving me of such responsibility, I would be satisfied. Instead of giving me a letter, however, he O. K.'d a requisition which I made. Thus was furnished the only medicine we had until we arrived in Cuba.

We left Springfield August 8, 1898, in four sections. So great was the desire to go to war that nineteen men followed us to Cuba and enlisted there. On our journey to New York, while one of the rear sections was passing over a trestle, a private (celebrating the fact that we were going to war) fell off the train and into a ravine. As the following section was passing over the trestle the soldier was seen below, lying on the ground, which fact was reported to Major F. A. Denison, in command. He ordered the train backed up to get the remains. Four men were sent to bring up the body. As they were about to lift it up, to their surprise they discovered that the soldier was only asleep. On examination it was found that he had merely sustained a few scratches about the body, and a slightly sprained ankle.

After our arrival in New York I boarded the Yale as soon as possible, and found no person who could say more than that he knew that all supplies for the Eighth had been put aboard—but where? Here was a boat one-tenth of a mile long, and when one started down the hold it

suggested a trip on an elevator of a Chicago building from the sixteenth story to the ground floor. It so happened that the quartermaster supplies, commissary supplies and medical supplies for the army in Cuba—as well as supplies for the Eighth Illinois, the rations for the fifty-one male nurses, and the regular provisions for the passengers and the crew—were on this boat. Looking for anything in one of the holds was like searching Pandora's box—all blessings gone but hope.

Shortly after boarding ship several telegrams came from Washington, asking if I had received the medical chests sent me. Inquiry revealed nothing but a general impression that they had been put aboard, and I answered the messages accordingly. In the meantime Lieutenant White, of the Seventh Illinois, had placed in my charge a number of immune male nurses going to Santiago to attend the yellow fever patients. In two and a half hours after boarding the Yale we were out in the stream. During this short time I had to dispose of my sick both ashore and aboard. I had to go to a telegraph office, find my supplies if possible, look after the fifty-one male nurses before alluded to, and perform other immediate duties. Had it not been for the chief of police, who sent me ambulances, some of my sick would have been left on the wharf. It seems to me that some officer of the government should have superintended the loading of all supplies—retaining a diagram or memorandum of what each hold contained—and that such responsible officer should have met us at the boat, prepared to give us any desired or necessary information. As it was, my supplies were not found for several days after we reached Cuba, and one medical chest we never received. We only had what medicines I managed to bring with me from Springfield. The rations for the fifty-one male nurses were never found, and I made arrangements with the steward for their food. All things considered, I fully realized that the government was ill-prepared for war from the standpoint of transport service. The Yale (formerly the City of Paris) was a magnificent passenger carrier, but a very poor transport, as the deck was the only place for the soldiers, no matter what the weather might be. There was no proper place for hospital, drug-room, or "sick-call."

On August 15th we steamed into beautiful Guantanamo Bay, and passed the spot where fell John Blair Gibbs, the first American medical officer shot and killed in the Spanish-American war. Here we learned that the blockade had been raised, and that hostilities had ceased. With this information the dream of the surgeon vanished. Only the night before in slumber had he been surrounded by many patients, the different cavities and structures of whose bodies had been pierced by Mauser bullets. In dreams he had been busy examining and recording the effects of these bullets on tissue and bone, and had been carefully inserting Senn's bone plates, or the Murphy button, or using Maunsell's invagination method of suturing the intestines. He was still dreaming; but with the words "The war is over" he awoke and realized that—

> "There is never a dream of pleasure
> But the waking makes us sad."

However, after awaking, it dawned upon him that Medicine must take the place of Surgery, and that if the regiment were to remain in Cuba for any length of time, the men would have to meet a more deadly and potential force than the Mauser bullet—that is, the yellow fever germ, reinforced by its cohorts, the plasmodia malariae.

After a short stay in the Bay we steamed out along the coast, where the mountains rolled in successive ascending ridges until lost in the mists and the clouds. Those wrinkled hills, the silent monuments of Cuban valor, stood out in all their grandeur and seemed to welcome us. That evening we anchored off Morro Castle, and the next afternoon we landed at Santiago, having passed the vessel upon which were the sick and convalescent of the First Illinois. When they learned that we were the Eighth, cheer after cheer broke over the Bay, and the reverberating hills caught

up the salutation, echoing and reëchoing the mutual greeting.

"We cordially greeted each other,
In the old, familiar tone;
But I thought, though I did not say it,
'How pale and weak they have grown.'"

Before disembarking I had ordered Sergeant Rantus of F Company taken to the Nautical Club Hospital. Leaving Springfield as a malarial fever convalescent, he had done nicely on the voyage, but had arrived at Santiago in no condition to march and camp out. Next day he did well, but a few days later information came that he had the yellow fever and had been sent to the yellow fever hospital across the bay. Here he was refused admission on the ground that he did not have yellow fever, and was returned to the Nautical Club Hospital. In a few days he was again sent to the yellow fever hospital, and this time he was admitted—perhaps out of sympathy. The man recovered, did service, and came home with us.

This case illustrates that the medical profession (as represented at Santiago) differed as to what constituted a case of yellow fever. Some physicians seemed to rely wholly upon the presence of albumen in the urine in connection with the symptoms of an intermittent fever. Others maintained that there was no such thing as yellow fever, and that all so-called yellow fever was malarial in origin. Still others there were who insisted that all Cuban fevers were yellow fever. And still another class claimed that these fevers were antithetical; that is, that malarial fever was a preventive of yellow fever, and vice versa. Such seemed to be the status of medical opinion concerning yellow fever upon my arrival.

On the morning of August 17th, as I was on the way to the "Palace," I heard a man shouting "Loose!" "Loose!" in the street. Astonished, I turned to inquire what was the matter—and then for the first time felt what it means to be in a country whose people speak a language that differs from one's own. I afterward learned that the man had oil for sale, and was shouting the Spanish word "luz," meaning light.

Arriving at the Palace, or Headquarters, I reported to the Chief Surgeon, Colonel V. Havard, a very superior man. In the midst of a great rush he endorsed my requisition and took my papers—thus relieving me of the nurses that were in my charge. Three days later our command was ordered to relieve the First United States Infantry at San Luis. Here we encamped on a hill two miles from town, but heavy rains caused us to move into the village, where the greater portion of the troops were placed in an old Spanish arsenal that had recently been fitted up, the remainder occupying sheds that were originally built for Spanish soldiers. These sheds were very large and well thatched with palm leaves, which effectually turned the rays of the sun and kept out the driving rains. Subsequently the somewhat crowded condition of the troops in the arsenal was relieved by placing a portion of them in tents. Thus we had—during the latter part of the rainy season—some of the men in the house, others in sheds and still others in tents. If my memory is correct, the statistical record of the health of the troops (after the crowded condition was relieved) showed that those troops in the house did best; the next best were those in the sheds, and then those in the tents. However, the latter troops did very well—the tents having raised board floors and beds three feet above the ground. After the buildings that were previously used by the Spaniards as a hospital had been thoroughly cleaned and fumigated—blankets and linens being burned—I established my hospital therein, putting in about thirty beds. Shortly after this the Twenty-third Kansas (847men) was brigaded with us, and General E. P. Ewers placed me in command of the medical department of all troops then present—the Eighth Illinois, the Twenty-third Kansas, the Signal Corps and the Pack Train. My assistants, aside from those in the Eighth Illinois already mentioned, were Dr. F. D. G. Harvey and Dr. C. Sunday, of the Twenty-third Kansas, and the Contract Surgeons, L. B. Bluitt, W. C. Warms-

ley and I. P. Agostine. The number of beds was gradually increased to ninety. "Sick call" was placed under the medical officers of the respective commands, at the temporary field hospitals. The seriously sick and those requiring operation were brought to the hospital buildings in the city, after the manner of the Division Hospital of Colonel A. C. Girard.

In regard to the health of the troops, one of the first things which attracted my attention was the fact that the American soldier who drank rum almost invariably came down with fever. The rum seemed to lower his vitality to such an extent that the red blood cells became fruitful culture media for the malarial hæmatozoön, or plasmodium. General Ewers closed many saloons, and ordered those remaining open to sell no liquor to soldiers, under penalty of being immediately and permanently treated likewise. To a great degree this prevented an increase of fever cases.

The ration of our soldiers was generous, nutritious and varied. Three things favored us: First, we had a number of excellent cooks with us—men who knew how to make nutritious and palatable dishes from the most simple materials. Second, the majority of the men were not connoisseurs of the culinary products of a Delmonico, many of them having been daily patrons of the migratory Chicago restaurants. Third, the men were of powerful physique and hardy constitution. The clothing and foot-gear were all that could be asked, but I believe the campaign hat might have been supplanted by the cork helmet to very great advantage.

The men were ordered to eat and drink only that which the United States furnished them, and were especially warned to keep away from fruit. Being but children of a larger growth, this caused some of them to eat it more freely at every opportunity. The wisdom of the order, however, was proved by the fact that the disobedient quickly and invariably found their way into the hospital.

MALARIA.

At San Luis the first disease encountered was malaria, of which we handled more than two thousand cases. We had mostly to do with the benign, tertian and quartan types. Very frequently in this disease we were called upon to note the unexpected symptom, slow pulse, in connection with rise of temperature. A very interesting case was that of a young man of rather robust habit, who had been in good health, but who was suddenly stricken with a profuse epistaxis, which resisted all kinds of local treatment. After a few days it was noticed that the hemorrhage was most profuse daily about 10 a. m. (sometimes slight in the afternoon,) and was accompanied by rise of temperature. Malaria was suspected. Consulting all the authorities I had, the only clue found was in Dr. Manson's very superior work on Tropical Diseases. He stated that this might happen in malarial cachexia. This man was not cachectic, but the reverse. However, he was given large doses of quinine and mineral acid, which stopped both the fever and hemorrhage. This—with other similar cases of malaria—leads me to believe that hemorrhages from the Schneiderian membrane may occur coincident with the paroxysm, even in sthenic cases. The same condition also obtained in the bowel, and (not giving the pathology) I am of the opinion that the malarial germ will attack any mucous membrane and cause hemorrhage under certain conditions.

One afternoon there was brought to the hospital a private, unconscious, with stertorous breathing; cold, clammy skin; pulse, subnormal; axillary temperature, 97. No intelligent history could be obtained, as he had not been sick. We did what we could for him, but he never regained consciousness. Not long after this a somewhat similar case was brought in. Rectum was washed out and forty grains of quinine in hot slightly acid solution was injected per rectum. The patient was wrapped in blankets with hot water bottles; in thirty minutes he was sweating, and soon thereafter regained consciousness. We then again washed out the rectum, put him on quinine, iron and arsenic, and he made an uneventful recovery without any more

paroxysms. In the next case of this kind I used the hypodermic in combination with the rectal injection. Results good. We had any number of cases in which there was only one paroxysm, with subnormal pulse. Very much like yellow fever, is it not? We had several cases of dysentery, with bloody stools, the hemorrhage being most severe when the fever was highest. All remedies failed to effect a cure until quinine, iron and mineral acid were given.

The transitional periods—that is, the time of the year when it changes from the rainy to the dry season (or vice versa) were apparently the worst parts of the year for malarial fever.

SCREW WORM.

In another case the eggs were deposited upon a wound in the scrotum. The larvæ burrowed up through the fascia lata and between the internal and external oblique muscles. The whole tract had to be thoroughly opened and carefully cleaned out before the patient began to recover.

SINKS.

Regarding camp sanitation, there was much difference of opinion among inspecting officers—one countermanding what another had ordered. For instance, one would say: "Your sinks are entirely too far away; locate them only a short distance from the companies." Then another would say: "Your sinks are entirely too close." In my opinion there are many things that may modify the proper location, distance and depth of sinks—as permanency of hospital structures, climate, character of soil, etc. The hospital structures in San Luis were permanent and were surrounded by a small area of ground; the sink was a short distance from the buildings, and much deeper than those in the field. I thought this better than having the yard fenestrated with shallow cesspools of infection, and Capt. R. S. Woodson, Medical Inspector of the Department—than whom one would not wish to meet a more affable, efficient and impartial judge—agreed with me.

EXAMINING BOARD.

Much unpleasantness sprang up between the medical officers of some of the regiments in the Department of Santiago, and it was impossible to have the sick properly taken care of. General Leonard Wood appointed an Examining Board consisting of Major L. C. Carr, Major Seaton Norman and Major A. A. Wesley; Lieut. W. W. Quinton, Recorder. After we finished our work everything went on smoothly.

ENTERIC TROUBLES.

In November, December and January we had the majority of our enteric troubles. The causes were fruit, bad water, and sugar-cane juice; these were supplementary to those which ordinarily bring about enteric disturbances. Beginning with September the number of cases in the Eighth increased, reaching the climax in December, after which time the number decreased.

Total number of cases of dysentery—165. Total number of fatal cases of dysentery—4, of which one was complicated with pneumonia.

I wish to unequivocally assert that we never had anything like an epidemic of typhoid fever. We had only two deaths from this cause in the Eighth Illinois, and but three in the Twenty-third Kansas. In this connection I note that Major Victor C. Vaughan—sanitary expert of the University of Michigan—says that "the army surgeons correctly diagnosed less than one-half the cases." If this be true, then we were exceedingly fortunate: for I believe that a failure to properly diagnose this disease among troops can have but one result, and that is—an epidemic.

SMALL POX.

It is supposed variola was brought to Cuba shortly after the European had settled there. At all events it has raged there annually for centuries. One would think that through hundreds of years on a small island the population would get what might be called hereditary immunity. I believe we have to a certain extent acquired such immunity by reason of vaccination. However, only one case of variola occurred, and that in a native mail carrier who came to San Luis from Siboney, where Capt. R. S. Woodson did such excellent work in stamp-

ing out the disease. This case was put out about a mile from town, and there was no spread of the infection. However, our regiment had been vaccinated in Springfield.

WATER SUPPLY.

During the rainy season there is plenty of rain water for the troops. The dry season begins about November 1st, and by reason of the cessation of the rains the streams grow continually smaller until January, when many of the hitherto roaring rivers have either dried up or become simple rivulets, unfit for drinking purposes. Troops must have water, and it must be the very best they can get. Many November days were spent in locating camps where there would be ample drill grounds and a good water supply; but even at the most available spots the water had to be hauled quite a distance. One great problem of camp sanitation is how to obtain pure water. We used filtration and heat—the two best methods of sterilizing water. In the hospital I used the filter; in the camp the water was boiled; but it was difficult to get the men to confine themselves to the use of the latter.

REGIMENTAL DATA.

In the Eighth Illinois we had about 1,300 officers and men. In Cuba, for the greater portion of the time, our sick rate was about eight per cent. For a short period it rose as high as eleven per cent. Perhaps you will appreciate the importance of these figures if I state—by way of comparison—that it was said that one regiment, arriving after us, had at one time over eight hundred sick. That was more in accord with the experience of man; for, says John Hunter, in his "Observations on the Diseases of the Army in Jamaica" (third edition. London 1808, pages 10-31): "Four regiments were sent from England in 1780, to Jamaica; they arrived there on the 11th of August, and before the end of January ensuing, not quite six months, nearly one-half of them were dead, and a considerable part of the remainder were unfit for service." While the Eighth was in Cuba, Company G had the greatest number of sick—95 out of a possible 104. Company D had the smallest number of sick—83 out of a possible 104. About fourteen per cent. of our regiment escaped illness while on the island.

A medical officer of high rank asked me what I thought of the relative sanitary precaution taken by the different regiments in the vicinity, and whether white soldiers in camp will not take better care of themselves than colored soldiers. My answer was that it is purely a matter of equal intelligences—that blacks and whites of the same degree of understanding display a like regard for the rules of health; but the blacks seem to be less fretful than the whites under the rigid requirements of army discipline. I based my reply upon a belief which arose from many careful observations that I made.

As far as I was able to note, the physical difference between the city and the country boys seemed to be in favor of the former, except in venereal cases. Of the latter we had, while on the island, a total of about eight per cent. sick with gonorrhea, chancroids, and bubo.

The average age of the staff was 38—of the line officers, 32—of the men, 26. We left Springfield with 1,237 men and 46 officers. We returned to Chicago with 1,169 men and 46 officers. We lost 20 by death. In Cuba we lost 15 by disease; by being shot, 3. In the United States we lost 2 by disease.

We left in Cuba fourteen sick in hospital, of which number one is said to have died after we returned to the United States.

CAUSE OF DEATH IN CUBA.

Dysentery	3
Dysentery and Pneumonia	1
Typhoid Fever	2
Malaria	2
Typho-Malaria	1
Tetanus	1
Pneumonia	1
Pulmonary Tuberculosis	1
Pulmonary Hemorrhage	1
Chronic Desqu'ative Nephritis	1
Diabetic Coma	1
Shot	3

On March 10th we said good-bye to our

lowly Cuban friends and sailed from the land of perpetual summer toward the cooler zones at home. The return trip was made aboard the Sedgwick, which, though smaller than the Yale, was a much better transport, as it was governed by regulations of the war department. Every morning at 10 o'clock Col. J. R. Marshall, Capt. E. W. Hendricks, Quartermaster Johnson and myself inspected every part of the vessel. The ship's officers and the entire crew were not only accommodating but deserve high commendation for the admirable manner in which they performed their various duties. Embarking in shirt-sleeves at Santiago, we disembarked in overcoats at Newport News, without any serious effects from the change. We arrived in Chicago on March 18, 1899, and encamped at Tattersall's until mustered out.

CONCLUSION.

In conclusion I would say this:

The coördinate branches of the service—the army and navy—seemed to me to be as far apart as if they represented different governments. The fact that the success of one branch might mean the success of all, and the defeat of one branch might prove the defeat of all—should have forbidden the exhibition of any feeling of superiority on the part of either the army, the navy, the regular, or the volunteer. Although the war developed this slight friction between the different arms of the service—as well as wide diversities of opinion between the people supporting the same—happily, in the end, "there is glory enough for all." We have only to remember the lesson which the Past has taught, and to faithfully perform the duty which the present imposes; then will the future present its star of hope.

As far as it is possible for such a conflict to be a blessing, the Spanish-American war has been one to the United States. It has had a tendency to unite more closely all parts of our union. It has brought all classes, from the banker to the laborer, nearer together. It has brought the regular military officer in closer touch with the volunteer officer, and each sees more clearly the virtues rather than the faults of the other. It has established the fact that we need a larger army, and has revealed to us the great deficiencies of our ocean transports. It has pointed out the necessity for a greater medical force in the service, and taught us the desirability of a closer relationship between the National Guard and the Regular Army. It has exposed—by an actual test—every weak or defective point in the entire military establishment, and has made us familiar with just what is necessary to the rapid mobilization of two hundred and fifty thousand men. The war has also demonstrated that the United States has in the Negro a potent force that may be used to great advantage in warding off the blows of an enemy. It has placed beyond doubt or denial the Negro's fitness to command, and made evident his readiness to obey—even when obedience means for him "the low green tent whose curtains never outward swing." It has demonstrated his unswerving loyalty to the government for which he fell with song upon his lips, while from his eyes flashed the ray of hope that in a coming day this nation would cease to permit the acts of degradation and cruelty which are practiced upon his people. The Spanish-American war brought to the Negro's heart especial thanksgiving, because he thought it would hasten (in every heart that loves fair play) the coming of the hour wherein the Negro would have his name redeemed from color's infamy. However this may be, it should be remembered that among the sons of men there is no class—no race—so lowly and despised that upon it the fate of a nation may not turn, and, in the eternal order of things, we are so bound one to another here in this great republic—

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THE ILLINOIS STATE MEDICAL SOCIETY.

PROCEEDINGS OF THE FIFTIETH ANNUAL MEETING (SEMI-CENTENNIAL)
HELD AT
SPRINGFIELD, MAY 15, 16 AND 17, 1900.

The Secretary read a letter from Dr. Steele Bailey, Secretary of the Kentucky State Medical Society, extending greetings of that body and wishing for a successful and profitable meeting.

On motion, the Secretary was instructed to return cordial greetings to the Kentucky State Medical Society in appreciation of its good wishes.

Dr. George N. Kreider: I understand that the Judicial Council has recommended that the Society take up the matter of incorporation. It may not be known to many of you that the Illinois State Medical Society has never been incorporated, and in looking up the matter I find that societies have been incorporated in this State whose names very nearly resemble the Illinois State Medical Society. Considering the small expense attached to securing this name for ourselves, it might be well to have the Society incorporated before some fraudulent organization assumes the name, which would give us a great deal of trouble. It will only cost $10.00. It needs no argument on my part to prove that the money would be well spent. I move you, sir, that the Society take steps for incorporation at once. Seconded and carried.

Dr. Kreider: There is one more point that comes up in this connection, and that is the designation of certain officers. The statute says that they shall be trustees or directors. This matter may be settled here, that is, that the name of the Judicial Council be changed to trustees or directors, whichever you decide upon. I move that the title Judicial Council be changed to Trustees. Seconded.

If necessary, we can change the name a year from now, but it is well to have the application for incorporation placed in the hands of the Secretary of State. I will now give notice of an amendment to the Constitution changing the name Judicial Council to Trustees. (To lie over one year.)

Dr. A. I. Bouffleur: A much shorter and easier way to dispose of this matter would be, for the purpose of incorporation, that the Judicial Council be considered Trustees, and I therefore make that as a motion. Seconded.

Dr. N. S. Davis: Would it not secure better and more reliable action if we appoint a committee to make preliminary application for incorporation and report next year a definite plan for doing so? It occurs to me, that it might be well to do this to lessen the danger of making mistakes about it. We can direct the Judicial Council to begin the necessary steps for incorporation. I think it would be well to have a committee to take this under consideration to proceed as the statute requires.

The Secretary: The Judicial Council has had this matter under consideration for several days, and it is their report that we are now acting on practically.

Dr. W. O. Ensign: The motion of Dr. Bouffleur covers the whole thing. He simply moves that the Judicial Council be considered the Trustees of the Society.

The motion of Dr. Bouffleur was then put and carried.

On motion, the general meeting adjourned until 11 o'clock.

SECTION TWO—THIRD SESSION.

Dr. J. R. Pennington, of Chicago, read a paper entitled "The Diagnosis of Diseases of the Rectum."

Dr. A. E. Halstead, of Chicago, followed with a paper on "The Pathology and Treatment of Fistula in Ano."

Dr. N. H. Henderson, of Chicago, contributed a paper on "The Treatment of Hemorrhoids."

The discussion on this symposium was opened by Dr. Halstead, and continued by Drs. Pennington and Henderson.

Dr. Edward T. Dickerman, of Chicago, read a paper on "Treatment of Adenoids."

It was moved that all papers in this section that had not been presented be considered read by title and referred to the Committee on Publication. Seconded and carried.

At this juncture, the general meeting was called to order by the President.

Dr. Carl E. Black: In the appointment of a committee of three for the good of the order, according to the resolution of the Monday meeting, it should have combined the recommendation of local affiliated societies to also appoint a committee of three in their local societies for the same purpose. I therefore move that we make such a recommendation to local medical societies. Seconded and carried.

Dr. George N. Kreider: At the Cairo meeting, I moved an amendment to the Constitution providing for "Corresponding Members," and stated at that time that it was for the purpose of showing honor to gentlemen living in foreign countries. I now move the adoption of that amendment to the Constitution. Seconded and carried.

On motion, the Society adjourned until 1:30 p. m.

THIRD DAY—AFTERNOON SESSION.

The Society reassembled at 1:30 p. m., and was called to order by the President.

SECTION THREE—FIRST SESSION.

Chairman, Dr. George F. Butler, of Chicago; Secretary, Dr. W. J. Fernald, of Rantoul.

Dr. E. A. Edlen, of Moline, read a paper entitled "Mental Overwork and Lack of Interest in Physical Development and Hygienic Care of School Children—A Menace to the Future of the Race."

This paper was discussed by Drs. Ryan, Miller, Cotton, Goodell, Murphy, and, in closing, by the essayist.

Dr. James E. Coleman, of Canton, read a paper on "The Scientific Need of Legislation Enforcing County Registration of Syphilitics," which was discussed by Dr. Denslow Lewis, and the discussion closed by the author.

The general meeting was called to order at this time for the purpose of inducting the President-elect, Dr. Kreider, into office.

The President appointed Drs. Corr and Cotton to escort Dr. Kreider to the Chair.

The retiring President, Dr. Moyer, in addressing his successor, said: Dr. Kreider, I lay down this insignia of office somewhat more cheerfully than I took it up. It has been a pleasure to me to have presided over the Illinois State Medical Society. At the time I was elected to this high office, I doubted the wisdom of the Society in its choice. At the close of the meeting, it would be unbecoming in me to state that I think their choice was well-founded. But it is to be remembered that I had two most able assistants in the work of the year, namely, the Secretary and Treasurer; the latter we have now appointed to the office of President, as the well merited recognition of ten long years of faithful service to this Society, and therefore it is with great pleasure that I pledge to you the hearty support of all members of the Illinois State Medical Society for the coming year. (Applause.)

Dr. Kreider, in accepting the Presidency, said: Dr. Moyer, and Members of the Society: It is needless for me to say that I feel highly gratified that this Society has seen fit to place me in the Presidential chair. No honor which has been or can be conferred upon me will be so much appreciated as this. The Fiftieth Anniversary has been an example and an inspiration. Never has the Society had such a first day; never has it had such a second day; never has it had such a banquet, or such a third day. (Applause.)

Your President-elect cannot hope to equal the distinguished gentlemen who have preceded him in this high office. If I may modestly claim one small virtue it is that I have a little business and organizing ability. I believe that this is exactly what the Society needs at this time. During the past year five or six new societies have been organized throughout the State. The chairman of the Committee on Medical Societies informs me that he has received promises of nine more societies to be organized during the coming year. (Ap-

plause.) Anything that the President and the Secretary can do in this line, I am sure, we will both be very glad to do. This means probably that we will have five hundred new members this year. I warn you of the deluge which is approaching. I want to enlist your co-operation and support in bringing on this deluge, and to assure you that the officers can be called upon for anything they can do, and they ask your help, so that we may call on you to assist us in this great work.

In starting upon the second fifty years of work, I hope and trust that the coming year will find us much further along in our ambition to organize the medical profession of the State than we are at the present time. Gentlemen, I thank you for your kindness in electing me to this office. (Applause.)

The Secretary: I move a reconsideration of the vote taken this morning with reference to the incorporation of this Society. Seconded and carried.

Dr. Harold N. Moyer: There are some good reasons why we should undo the work of this morning. I shall not give them at this time, but merely state that our action was somewhat hasty. It is an important step. It is a subject that has been under consideration by the American Medical Association for a long time, and while I think some action should be taken at this time towards securing the incorporation of the Society, I do not think the matter ought to be done hastily. There are important reasons for not doing it, and I will not rehearse them here unless you feel it is necessary to do so. I would urge that a reconsideration be given and more thought be bestowed upon the matter, not that we desire to defeat it, but we favor it, and that there should be adequate revision of the by-laws and of the Constitution before this action is taken as one of the preliminary steps.

Dr. George N. Kreider: Our venerable friend, Dr. N. S. Davis, was hardly given an opportunity to make some remarks that he intended to make. Dr. Davis wants to discuss this matter fully in the Society's Journal later on.

Dr. Denslow Lewis: I now move that the matter of taking steps to incorporate the Society be referred to the Judicial Council with power to act. Seconded and carried.

SECTION THREE—SECOND SESSION.

Dr. A. C. Corr, of East St. Louis, read a paper entitled "A Further Consideration of State Medicine and Sanitation," which was discussed by Drs. Robison, L. C. Corr, and the discussion closed by the essayist.

Dr. Florence Hunt, of Chicago, contributed a paper entitled "Sanitary Treatment of Pulmonary Tuberculosis in Illinois," which was read by Dr. Moyer in the absence of the author.

Dr. John A. Robison, of Chicago, read a paper on "State Care of Consumptives," which was discussed by Drs. Brown and Center.

Dr. Adolph Gehrmann, of Chicago, read a paper on "Observations as to the Efficiency of the Chicago Health Department of Fumigation," which was discussed by Drs. Wallace, Allaben, and, in closing, by Dr. Gehrmann.

Dr. Katherine Miller, of Lincoln, read a paper on "The Relation of the Physician to the Public Schools," which was discussed by Drs. Henry, Goodell, and, in closing, by the author of the paper.

Dr. O. B. Will, of Peoria, followed with a paper on "The Medico-Legal Status of Abortion."

Dr. W. J. Chenoweth, of Decatur, read a paper entitled "If the Cause is Removed, the Cure will Follow," which was discussed by Dr. Gehrmann.

Dr. R. H. Henry, of Peotone, read a paper on "What Shall the Harvest Be?"

Dr. E. L. Herriott, of Jacksonville, read a paper entitled "Practical Observations on the Chemical Effects of a Few of the Older and some of the Newer Remedies."

Dr. J. P. Matthews, of Carlinville, read a paper on "The Eliminative Function of the Kidneys in Health and Disease."

The hour for adjournment being near, Dr. Weis moved that the remainder of the papers in this Section be read in abstract

and referred to the Publication Committee. Seconded and carried.

President Kreider called the Society to order in general session.

Dr. J. W. Pettit offered the following preamble and resolutions:

Whereas, Physical incapability alone prevented the chief executive of the State, the Honorable John R. Tanner, from extending in person a hearty welcome to the Capital, as stated by his official associate, who so eloquently presented the same; therefore, be it

Resolved, That we the members of the Illinois State Medical Society extend our profound sympathy to Governor Tanner in his illness, and express the earnest hope that he may soon be restored to complete health.

Resolved, That our Secretary be and is hereby instructed to convey to the Governor this public expression of our feelings.

On motion, the resolutions were adopted.

Dr. J. R. Pennington, Chicago: I want to ask a question concerning one of the members of this Society, and I am going to do it because a report or rumor has come to my ears, and I want to know whether there is any foundation for it. Several members have asked me if I knew Dr. Henderson. They said that he is considered an advertising man; that he sends men all over the country to solicit business for him. Dr. Henderson is here, and I am sure he would like to know about this as well as the rest of us.

Dr. William H. Wilder, Chicago: If there is anything to be done in this matter, distinct and specific charges should be preferred so that the committee or Society may have something to work on. If these are only rumors, very little cognizance should be taken of them. If there is anything against this man, he should be given a fair trial.

Dr. O. B. Will, Peoria: The membership of this Society is made up of gentlemen who represent local organizations. We receive them upon the credentials from their local organizations, and it is the custom to refer such matters back to the local organization from which the gentleman came.

Dr. Carl E. Black: I move that this matter be referred to the local society for investigation. Seconded and carried.

The Secretary: There was referred from Section 3 a resolution or motion made by Dr. John A. Robison. It is this:

Dr. Robison moves that it is the sense of the Illinois State Medical Society, that the establishment of sanatoria for the State care of consumptives is feasible, and that all efforts to this end by the State Board of Health receive the hearty support of the Society.

Seconded by Dr. Butler, and carried.

The secretary read a telegram from the Iowa State Medical Society extending greetings.

This telegram was received too late for any action to be taken in regard to it.

Dr. O. B. Will offered the following preamble and resolutions:

Whereas, The present Jubilee meeting of the Illinois State Medical Society, now drawing to a close, has proven one of the most interesting and profitable, as well as pleasant, in the history of the organization; and

Whereas, To local efforts and influences must necessarily always be due much of such desirable results; therefore, be it

Resolved, That the members of the Illinois State Medical Society in session assembled hereby tender to the citizens and profession of the city of Springfield, and especially to those constituting the local committee of arrangements, their most earnest and hearty acknowledgement, and thanks for favors shown and possibility of successes won.

Resolved, That a copy of these resolutions be handed to the local committee and to the public press of Springfield.

On motion, the resolutions were unanimously adopted.

There being no further business to come before the meeting, the Society then adjourned, to meet in the city of Peoria, third Tuesday in May, 1901.

The Illinois Medical Journal

PUBLISHED MONTHLY.

Official Organ of the Illinois State Medical Society.

Committee on Publication:
E. W. WEIS, M. D., Chairman, Ottawa.
G. N. KREIDER, M. D., Springfield.
E. J. BROWN, M. D., Decatur.

All communications should be addressed to E. W. WEIS, Secretary, Ottawa, Ill.
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Springfield, Ill., October, 1900.

STATISTICS.

The Secretary of the State Board of Health justly complains that the physicians of Illinois do not respond to his requests for accurate data concerning the personnel of the profession. This is a subject which has a direct bearing on each and every practitioner, and should receive his hearty cooperation. Recently the Secretary has issued a mortuary list of licentiates of the Board since 1877. He is certain that it is incomplete, but is powerless to complete it without the assistance of the profession. Members of the Society will please take notice and lend their assistance.

K.

INTRA-SPINAL COCAINIZING FOR GENERAL ANESTHESIA.

During our recent visit to Paris we had the pleasure of seeing Tuffier perform five capital operations by the anesthesia being induced through the injection of cocaine into the spinal canal. While the method is not original with Tuffier, being a German production, he has probably used it oftener than any one. He stated to us that he had applied it in about three hundred cases with not one bad result or effect for a remote period of time. That the anesthesia was complete, we witnessed ourselves in that the operations were for the removal of ovarian tumors, the ovary, the kidney and gastro-enterostomy. The patients were thoroughly conscious and conversed with the operator. The only untoward symptoms seen were those of general shock and some nausea. I may state in passing that Tuffier never uses this method in operating above the diaphragm. His mode of application is very simple. He is not particular between which vertebrae he enters the canal, whether between the first and second or second and third lumbar, but he always introduces it in the lumbar region. The patient is in the sitting position, stooping forward and with a three inch hypodermic needle he readily enters the spinal canal. This is evidenced by the escape of spinal fluid through the needle. He injects one gramme of a two per cent solution which has been sterilized by being subjected to a temperature of 180° F. for several hours on three consecutive days. Five minutes after the injection the anesthesia is complete and remains so from one to three hours. By this method he has failed to perceive any of the uncertain and toxic effect of cocaine in any of his cases. There is scarcely any question but what this method will soon supersede general anesthesia by chloroform and ether in the near future when employed by skillful and careful operators in operations below the diaphragm.

W.

INTERNATIONAL MEDICAL CONGRESS.

The XIII International Medical Congress opened at Paris, August 2nd, 1900, in the magnificent music hall of the Exposition. Owing to the death of King Humbert, President Loubet did not open the Congress in person as was intended, but

was present. The opening session showed 5,000 members in attendance. Owing to the deficient acoustic properties of the hall there was considerable disappointment in not being able to fully hear either the papers read, or the remarks made. Another unfortunate condition was that all of the proceedings were in the French language, with very few exceptions. Those foreigners who could not understand that language failed to receive the full benefit of their attendance. This condition continued throughout the entire Congress. It is safe to assume that at least one-third of the visiting members were disappointed in this regard, but great pleasure was experienced in being able to see the giants of the profession from all over the world. It was delightful to see the ovation given Prof. Virchow when he rose to read his paper.

America was well represented, there being twice as many American as English physicians. Illinois seemed to have the greater representation of the American states.

The hospitality and courtesy of the French physicians could not have been excelled—free card of admission to the Exposition, ready admittance to all clinics, hospitals and public institutions and an earnest effort to make our sojourn there a most pleasant, as well as a memorable one.

The receptions and fetes were numerous and well attended. At the clinics the operations were witnessed by our best surgeons, who seemed determined to allow nothing of the best and latest to escape them.

The Congress in general was a grand success, both as to numbers and quality of material introduced, but the hope is entertained that at the fourteenth meeting some provision will be made so that the English speaking physicians can have a section to themselves. W.

Correspondence.

XIII INTERNATIONAL MEDICAL CONGRESS.

Paris, Aug. 10th, 1900.

To the Editor:

Appended please find list of registration of members attending the Congress. The last few days the sessions have been well attended, perhaps better than during the earlier days of the Congress. Receptions, dinners and fetes have been thronged by visiting physicians and their friends. On the 9th inst. President and Madame Loubet gave a reception. An entertainment was given on the stage erected on the large grounds inside the Elysee enclosure. There certainly were five or six thousand people in attendance.

The French physicians have been most hospitable. We have witnessed many surgical operations, and were particularly interested in those of Dr. Doyens at his private hospital, Hospital Bichat. We have visited the new Boucicault Hospital founded by the former proprietors of the great store Bon Marche. It is probably the most modern and complete of European hospitals—built on the pavilion plan. It cost, including funds left for endowment, $600,000. Dr. Doyens' operations are much sought for by visiting members. One obtains admission by invitation. He is a young man probably not more than forty-five, is a cool operator, who talks well as he works and furnishes what may be termed a spectacular performance. He uses only instruments constructed for him, many of which differ materially from those in common use. On account of the many mechanical devices which he calls to his aid his work has been said by some to be a step backward. One thing is apparent, he does nothing blindly for in his abdominal incisions the utmost freedom is practiced and every organ can be seen as the large wound is held wide open. He has a fine operating room, and after the operation was over, gave a moving picture exhibition showing a few operations throughout.

Sir James Simpson and a number of

noted men were present to witness the morning proceedings.

Some good papers have been presented in the surgical section on "Infection," studying rather the factors that make for inviting or resisting infection than the role germs play.

Under the guidance of Dr. George Rubin, a wide-awake, Chicago P. and S. graduate, we saw very much of medical Paris. We visited the great Pasteur Institute. There we visited Pasteur's tomb. Here we also met Professors Metchnikoff and Marmorek, both of world-wide fame, in their laboratory and their working clothes. The widow of Pasteur lives in the building. Prof. Metchnikoff is Pasteur's successor.

A dinner was given by American physicians at the Hotel d'Orsay last night (at which but thirty were present) to Dr. Mamon, who has been largely instrumental in arranging matters pertaining to the Medical Congress in its relation to the great Exposition. To-day another reception will be given by the city to visitors at the Hotel de Ville, after which the Congress will be only a memory, but a very pleasant one for those of us who could not only enjoy it, but for the first time see the great city with its many interesting and instructive features.

Yours truly,
Wm. M. Harsha, M. D.

Total Registration of Members Attending the XIII International Medical Congress, Paris.

France	2,293
Russia	805
Germany	572
United States	412
Italy	324
Great Britain	222
Spain	219
Belgium	147
Austria	141
Argentine Republic	108
Switzerland	101
Hungary	85
Roumania	60
Egypt	47
Denmark	46
Japan	43
Brazil	41
Turkey	39
Portugal	35
Greece	33
Sweden	28
Bulgaria	26
Mexico	24
Canada	20
Norway	18
Luxemburg	16
Servia	15
Croatia	8
Peru	6
Australia	4
General	202
Total	6,170

THE WORK OF THE LEGISLATIVE COMMITTEE.

Editor Journal:

It is not too late to commend the attitude of the legislative committee as set forth in the address of its chairman, Dr. C. E. Black, at its meeting in June last.

Since the legislative committee has become one of the recognized instruments of the Illinois State Medical Society for the purpose of consummating the designs of the organized, regular profession of the State set forth in the preamble of that society at its organization fifty years ago, and we accept its duties and obligations as declared in the chairman's address as referred to and its readiness to receive suggestions and instructions from the educated profession at large, and more especially the members of the parent society as to how best to promote Sanitation and State Medicine in the advancement and protection of the health and happiness of all the people of the State. It is the duty of individual physicians throughout the State, interested in these matters, as everyone should be, to express an interest if not a readiness for active cooperation in the matters that confront the committee. I am sure no more appropriate position could be assumed than that indicated in the chairman's address referred to.

Please let it be remembered that this

legislative committee is organized by the State Society to actively carry into operation the Society's behests in the enactment of such laws as will promote Sanitation and State Medicine both as to the regulation of the practitioners of medicine and the protection of the people of the State against the incursion and spread of epidemics and contagious diseases and the gathering of such vital and mortuary and other statistics pertaining to disease as will lead to the knowledge of how to maintain the best condition of health, vigor and intelligence among the whole people, and to prevent such pernicious legislation on the part of designing quacks, charlatans and mountebanks as may seek to prey on the confiding, uninformed public, who trust blindly without sufficient investigations to the designing pretenses of some who parade under the livery of medicine, and who are trying to ingratiate themselves into public confidence by the frequent and ingenious use of the word liberty and freedom in their publications.

This committee in conjunction with the State Board of Health, another instrument of the State Society which is empowered by a legal enactment to regulate the practice of medicine in the State, and to carry into effect the sanitary laws of the State, are entrusted with these responsibilities. The one to execute, the other to procure legislation, promotive of protection to health, well-being and life of the citizens of the State.

All of the points in Dr. Black's address to which he called attention as desiring to know the sentiments of the profession deserve much consideration.

A thorough organization of the profession throughout the State in the State Society and local affiliating societies for which the address asked is greatly to be desired,—and is a necessity for its influence in legislation and a proper recognition of a unity of purpose. Hence, each member should strive to create that sentiment among his professional fellows with whom he comes in contact.

The expressions of views on the various legislative topics should be indulged in freely and importunately through the Journal, in society meetings and otherwise that the committee may appreciate them, which will lead to a definite idea as to what the profession desires. In this the desired legislation should be reduced to a minimum and as well arranged and forcefully put as possible. I am inclined to the view that formulated laws should be presented by the State Board in accordance with a clause in the law creating the Board which says the Board may from time to time recommend to the governor or legislature such laws as it may deem necessary to promote sanitary interests, etc.

The Board is a body created by the legislature under form of law and thus presenting matters to it under its expressed prerogative would, it seems, be better heeded.

I think the committee has wisely concluded not to ask for any radical legislation at the next session. I think the good of the act of the last session will not be fully appreciated at so early a date as the time of the next session. In fact I think it will be many years before we will fully realize the many good features of that law, fragmentary as it appears to be.

The clause that, only those who are licensed to practice medicine in its entirety shall entitle themselves as doctors, is of immense utility and importance as a legal basis on which the character of physicians is established. This important point may not be fully appreciated by the profession, or felt the force of by the charlatan for a long while, but it is hoped that it will be kept in force as a distinguishing feature so long as any well-informed physicians are allowed to practice.

It is hoped the actions of the legislative committee will meet with such approval by the profession and be confided in so implicitly that it may soon be looked upon both by the law-making body, state officials and the public generally as an exponent or representative of the profession to which all alike will turn on all questions of in-

formation on Sanitation and State Medicine.

I hope the view of both the committee and the Board of Health will become widened so as to adopt and execute some well devised plan of gathering vital, mortuary and sanitary statistics so that marriages, births, deaths and all cases of certain diseases shall be so tabulated as to become accessible for uses that may be made of them to prevent their occurrence and spread, at least of tuberculosis and syphilis, both preventable diseases.

With suitable laws and a widened scope of utility, as Dr. Black has suggested, let us carry Illinois to the front in all matters pertaining to Sanitation and State Medicine.

Hence let us respond to the committee's call for suggestions and instruction, by private letter or more appropriately through the Journal and give expression of undivided interest and earnest support.

Respectfully,

A. C. Corr.

E. St. Louis, Ill.

FROM SOUTHERN ILLINOIS.

To many members of the State Society it has seemed strange that so few practitioners of the southern part of the State have allied themselves with the State organization. The following letter is of interest in this connection. It shows that the work of the State Society is appreciated and there would seem to be no good reason why the members of the Southern Illinois Medical Society should not become also active members of the State Society.

Mt. Vernon, Ill., Sept. 22, 1900.

Dear Doctor Kreider:

Your very kind favor of the 18th at hand. I thank you sincerely for the Journal. I have enjoyed it very much. I certainly think very, very highly of the State Medical Association, and appreciate the grand work that it has done and is doing for the people of our State, likewise the high standing it has given our noble profession. I have always wanted to become a member, but have not done so. One principal reason is, that very early in my professional life, I became an active member of the Southern Illinois Medical, and have been peculiarly identified with it—I may say almost prominently associated with it. The meetings of the State Medical always take place at nearly the same time of the annual meeting of the Southern Illinois Medical. I nearly always attend the meeting of the Southern Illinois. I am also a member of the American Medical, which I always attend if possible, as well as the meetings of the International Association of Railway Surgons. I have felt that I could not spare more time away from my work at home. However, I am very proud of our State Medical Association, and will do my best to enhance its interests. I want very much to become an active member at some time. Again, I thank you.

Yours fraternally,

J. H. Mitchell.

NATIONAL ASSOCIATION FOR THE STUDY OF EPILEPSY AND THE CARE AND TREATMENT OF EPILEPTICS.

Sonyea, N. Y., July 30, 1900.

George N. Kreider, M. D., Pres.,
Illinois State Medical Society,
Springfield, Ill.

Dear Sir—In view of the large and increasing number of epileptics in the United States, whose unfortunate and neglected condition awakens the sympathy of every humane person, earnest efforts are now making by the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics to secure suitable provision for this class in states not having such provision. In the attainment of this end the co-operation of your Society and other benevolent agencies is solicited.

At a meeting of the executive committee of the Association, held at the Academy of Medicine in New York City, June 21, 1900, the condition of epileptics in your State was a subject of consideration, and the secretary was requested to write to you and respectfully suggest that your Society appoint a committee to ascertain the num-

ber and condition of epileptics under public care in the various institutions of your State, and also to procure such information as is obtainable respecting the number of epileptics not under institutional care, and report them to your Society. The last-named work has been accomplished with tolerably satisfactory results in some states through correspondence with local medical practitioners. Such information it is believed would be of great value to your legislature and to this Association in the prosecution of its work.

It has been decided to hold a meeting of the Association in the city of Washington in the spring of 1901, the precise date of which will be announced later.

I am, yours with great respect,

Wm. P. Spratling,

Secretary of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.

Inquiry at the office of the State Board of Commissioners of Public Charities as to the status of the proposed institution for the care of epileptics in Illinois, was answered by the statement that the board would not be in a position to make a definite answer for some time yet. In the meantime those interested should spare no effort to see that our State makes early and sufficient provision for these unfortunates.

County and District Societies.

The Warren County Medical Society which meets semi-annually, elected the following officers for the ensuing year:

President, Cynthia Skinner.
Vice President, J. C. Kilgore.
Secretary, Adella R. Nichol.

Adella R. Nichol, Reporter.

The Winnebago County Medical Society met at Rockford, August 14, and papers were read by T. H. Culhane on the "Surgical Treatment of Appendicitis," Albert Green on "Cholera Infantum," S. L. Anderson on the "Etiology and Diagnosis of Typhoid Fever," and E. H. Ochsner on the "Surgical Treatment of Perforation in Typhoid Fever."

The Moultrie County Medical Society met Thursday evening, Sept. 13th, at Lovington, with a good attendance, with President Dr. B. F. McMennamy presiding. Called to order at 8 P. M.

Dr. Hamilton's paper on "Intestinal Troubles of Children" was read, although the doctor was not present, as he is in Colorado on account of ill health.

Dr. J. D. Donovan read a good paper on "Early Abortions," with considerable discussion following.

Dr. W. K. Hoover presented a very interesting case of a man with right pneumo-pyothorax.

Dr. E. P. Miller presented a case of a child one year old with extensive addenitis of right side of face and neck, apparently beginning in parotid gland.

Our Society has grown to nearly twenty members and is in good working order. Added two new members at this meeting. We had with us Dr. E. J. Brown, of Decatur, Treasurer of the State Medical Society, who gave us a talk on the work of the State Society, and appealed that all should be members of that Society. Several new members were added to the State Society.

Our next meeting will be held at Sullivan, Oct. 11th, 1900. We hope to enlist all of our physicians in the Society, and will by the first of next year.

J. W. Mayes, Reporter.

The Morgan County Medical Society met in regular session Thursday, Aug. 9, 1900. Members present: Adams, Baker, Bowe, Cole, Franken, Moffet, Pitner and G. E. Baxter.

Minutes of July meeting approved as published.

The committee appointed to confer with the school board regarding the ventilation and heating of the high school reported that they had conferred with the board and a proper system would be adopted.

C. E. Black presented a communication from Miss Abbie Pierson, presenting a volume of notes taken by her grandfather, who attended the University of Pennsylvania during the years of 1812-13 and 1813-14. The notes were from the lectures of Dr. Physick and gave an excellent account of the teachings on surgery in the early part of the century. Dr. Black also presented a portfolio of papers selected by Miss Pierson from the library of her father for many years a practitioner at Augusta, Ill.

The society voted that the secretary formally notify Miss Pierson of the acceptance of these papers and express the thanks of the society for the same.

Subject for general discussion at the September meeting, "Appendicitis."

Papers on this subject by P. C. Thompson and C. E. Black.

Appointees for October: Harvey, Franken and Virginnie Dinsmore.

Reports of cases by Drs. Crouch and Vertrees.

Dr. Moffett reported two cases of acute miliary tuberculosis.

Dr. Franken reported a case of typhoid fever following malaria.

Dr. Black reported a case of sarcoma of the pelvis.

Dr. Pitner reported a case of septic endocarditis.

Adjourned.

—From the Society Journal.

The Montgomery County Medical Society met at the court house in Hillsboro, Sept. 11, 1900, and reorganized.

There being none of the old officers present Baxter Haynes was made chairman pro tem. and Wm. H. Cook, secretary pro tem.

There being enough of the old members present to constitute a quorum, minutes of the previous meeting were read and approved.

The chairman appointed a board of censors, viz: I. W. Fink, M. L. Moyer and J. C. Wilson. They then received the applications of W. W. Douglas and G. A. Clotfelter, of Hillsboro; M. W. Snell and F. C. Blackwelder, of Litchfield; O. Hauser, of Walshville; W. A. Edwards, of Butler; P. J. Fullerton, of Irving; Joe M. Trigg, of Farmersville; Jesse M. Hoyt, of Fillmore, and F. M. Entrekin, of Coffeen, and on the recommendation of the censors they were admitted to membership.

After the election of the new members it was moved that we proceed to make the organization permanent, which motion was carried.

Officers were elected as follows:

President, W. W. Douglas, of Hillsboro.

Vice President, F. C. Blackwelder, of Litchfield.

Secretary and Treasurer, Joe M. Trigg, of Farmersville; Censors, I. W. Fink, of Hillsboro; Wm. H. Cook, of Coffeen; T. J. Whitten, of Nokomis.

Motion carried to appoint a committee of three to revise the contitution and by-laws.

Motion carried that a committee of three be appointed to make out a fee bill and report at next meeting.

Wm. H. Cook, reported a case of gasoline poisoning and the symptoms produced therefrom, and which was discussed by M. W. Snell, and brought some interesting facts from a post-mortem case.

Adjourned until next regular meeting.

Joe M. Trigg, M. D., Reporter.

The Sangamon County Medical Society met September 10th. The meeting was called to order by President Kreider. In the absence of the secretary, B. B. Griffith was appointed temporarily to that duty. Members present: Munson, Brayshaw, A. D. Taylor, Pierce, Shutt, Griffith, Kreider, A. L. Hagler, P. L. Taylor, Walters, Mann, and visitors Booth, Hill and Rogers. The applications of Jos. M. Trigg, of Farmersville, and A. L. Stuttle, of Williamsville, for membership were received and placed on file. The committee on regulation of the milk supply asked for and was granted further time.

The president appointed B. B. Griffith to represent the society at the complimentary banquet to be given Christian Fenger Nov. 3 proximo.

Margaret T. Shutt then presented a paper on the microscopic examination of the blood as an aid to diagnosis. The paper was a plain and forceful presentation of this subject, and was illustrated by excellent drawings and preparations of blood.

S. E. Munson commended the paper in the highest terms and referred to the great importance of blood examinations in making diagnosis. Said that it was fully equal to urinalysis. He referred to a case in which the examination of the blood was his chief aid in making a diagnosis of an obscure cancerous growth of the stomach.

G. N. Kreider referred to the fact that his graduation thesis twenty years ago was on anæmia, and that the literature on the subject was then almost nil. Great advancement had been made since then and still greater discoveries were to be made in the future. In these discoveries any student with a small expenditure of time and money might participate.

J. Brayshaw reported a case of hernia which had been reduced *en bloc* by another physician with a fatal result, although an operation for relief had been undertaken after some days by Dr. Brayshaw.

G. N. Kreider spoke of a case of tuberculosis of the hip joint which had made very unsatisfactory progress until an accidental invasion of erysipelas had occurred, when great improvement resulted.

After lunch the society adjourned.

The Adams County Medical Society met Aug. 13, 1900, President Otis Johnson in the chair. The usual routine business was transacted.

R. J. Christie, Jr., Jos. Robbins and Wm. Gilleland, appointed as committee to confer with the committee on medical legislation, elected by the State Medical Society.

Dr. Wilson, Sr., and Dr. Wilson, Jr., of Versailles, Ill., applied for membership, as Brown county has no medical society.

The subject, "The Summer Diarrhœa of Children, Etiology, Pathology and Treatment," had been previously announced as coming up for general discussion. The subject was opened by Dr. Gilleland, who recognizes three causal factors for these cases: heat, teething and improper diet. He makes it his habit to take the dietary of these patients in his own hands. Considers milk the best diet when properly handled. He feeds these patients once in four hours if under one year, every six hours when older. Gives water freely between feedings. Believes if the stomach is given rest that nature will

purify and sweeten the viscus without artificial aids. Believes that these cases are suffering from toxæmia arising from ptomaines when high temperature develops.

Dr. Koch spoke very favorably of tanalbin, which in his hands has given satisfactory results in some 20 cases. This preparation is an almuminate of tannin and passes through the stomach unchanged, but is broken up in the alkaline medicine of the intestine. If the case is seen early he favors the use of a purge of castor oil. In some cases he also resorts to the use of bismuth salicylate and resorcin.

Dr. Germain recommended purgation with either withdrawal of milk as diet, or its dilution with an equal amount of water. She also makes it her practice to flush the colon, and finds lactic acid beneficial in many cases.

Dr. Justice believes that the etiology of summer diarrhœa lies in the failure of the chemistry of digestion, and that all that is needed if the case is seen early is to restore this function. He believes the period of the disease must be recognized in selecting a remedy, and mentioned calomel, soda bicarb and eudoxine as his favorite drugs.

Dr. Wilson, of Versailles, Brown county, said he had more trouble with the parents and grandparents of these patients than he had with the patients, for he believes in an early purgation and a rigid restriction of diet. This he finds hard to achieve, since in his country practice the friends of the patient are so apt to administer teas of varied composition, and forbidden articles of diet in his absence.

Dr. Christie, Jr., spoke of the benefit to be obtained by the inunctions of sweet oil when it is impossible to give nourishment internally. Also of the advantage of gastric lavage when there is obstinate vomiting.

Dr. Bierne said: "Remove the cause. Stop all milk, feed barley water and white of egg. Use arsenite of copper for the diarrhœa."

Dr. Rice advocated a mild purgative followed by withdrawal of all nourishment for from 24 to 48 hours.

Members present at this meeting were Drs. Tull, Justice, Christie, Jr., Koch, German, Johnston, Gilleland, Bierne, Rice, Center.

Visitor, Dr. Wilson, of Versailles, Ill.

Chas. D. Center, Secretary.

The Adams County Medical Society met September 10, 1900. The meeting was called to order by President Otis Johnson, and the usual routine business was transacted. After the reading of letters from J. A. Egan, Secretary State Board of Health, the motion was carried "to give moral support to the State Board of Health in its prosecution of unlicensed practitioners, and to assist the attorney representing that Board in securing evidence to convict."

S. J. and J. F. Wilson, of Versailles, Brown county, Ill., were elected to full membership in the society.

W. W. Williams gave a clinical report of an operative case of carcinoma of the breast. In the ensuing discussion L. H. A. Nickerson stated that he was becoming more and more convinced of the futility of operating for breast carcinoma as he believed there was always recurrence, or development of carcinoma elsewhere. He cited cases to sustain his point. Dr. Christie, Jr., and President Johnston defended surgical procedures, and pleaded for early, radical and complete operation before there was possibility of metastatic involvement.

C. D. Center reported 14 cases treated by the hot air bath and drew the following conclusions: The hot air bath has proved its usefulness, particularly in cases of nerve involvement, and in the traumatic joint conditions. It has proved less serviceable in the joint involvements due to inflammatory action of a septic origin. In all, except cases of very long continuance, or in those where multiple joints are involved, it has proved useful as a pain reliever. The greatest disappointment has been in cases of acute articular rheumatism.

Otis Johnston reported a case of ovarian cyst, where the pedicle was found twisted, necrotic, and with a well-formed line of demarcation. The patient for five days previous to operation had a temperature of 102° F., but the morning of operation was found with a subnormal temperature. The operation disclosed a copious hemorrhage of recent occurrence into the cyst cavity.

The Adams County Society now has 45 members and is in an exceedingly flourishing condition. The meetings are well attended and an unusual degree of interest shown. In July some members of the society succeeded in giving an evening excursion up the river. Those attending, some 350 in number, were the doctors, lawyers, dentists and druggists with their friends or families. It was a pleasant social event for a hot evening.

Chas. D. Center, Secretary.

PIKE COUNTY MEDICAL SOCIETY.

At the regular meeting held at Pittsfield, Aug. 16, 1900, the following members were present: L. J. Harvey, R. H. Main, Virgil Beavers, Geo. A. Humpert, Wm. E. Shastid, H. T. Duffield, F. M. Crane, G. F. Bechtoldt and W. F. Reynolds.

The following visitors were present: Harvey Dunn, of Perry; L. S. Lacy, of Pleasant Hill, and W. H. Garrison, of Pearl.

L. J. Harvey, President, presided.

Minutes of last meeting were read and approved.

J. C. Taylor, of Hulls, was elected to membership.

The names of Harvey Dunn, of Perry, and T. W. Shastid, of Pittsfield, were presented for membership.

According to a request from Carl E. Black, chairman of the State committee on medical legislation, the following committee was appointed "for the good of the profession:" H. T.

Duffield and F. M. Crane, of Pittsfield, and R. H. Main, of Barry.

Virgil Beavers spoke at length on "Hay Fever and Hay Asthma." He strongly recommended the removal of the diseased membrane from the inferior turbinated body and any other disease from the nasal cavity, such as adenoids and spurs. He reported two cases of hay fever and asthma of long standing which were immediately and permanently relieved by such operation.

W. E. Shastid advised a change of climate to the lake or seashore. He also desired to know if anyone had used the suprarenal extract for hay fever.

Harvey Dunn spoke of the uric acid theory in the causation of hay fever, and said that after thorough investigation he was convinced that uric acid was not the cause.

G. F. Bechdoldt read a paper on "Rickets," and reported a case of decided and rapid improvement by dietary regulation and the use of lemon juice. He quoted W. E. Saunders, of St. Louis, as saying that every case of rickets has an acute beginning and taken in the acute stage every case can be cured in three days.

R. H. Main said that in a practice of six years he had never seen a case of true rickets, and he considered it a rare disease. He suggested that most cases of rickets, so-called, were truly marasmus and were relieved by dietary and assimilative regulation.

L. J. Harvey reported a case of so-called rickets which was promptly relieved by dietary regulation.

Harvey Dunn also stated that in his experience most cases of rickets (so-called) were corrected by regulating the diet and digestion. He advised the use of fruit juices.

B. P. Bradburn, who was to present a paper, was not present.

R. H. Main reported a case of idiopathic œdema in a child of 4 years.

H. Dunn also reported a case of idiopathic œdema in an adult, which was relieved by using large quantities of oranges.

W. F. Reynolds reported a case of meningitis in a child of eight months in which the temperature reached 108° F.

H. T. Duffield, P. W. Brown and G. H. Henry were selected to present papers at the next meeting.

The next meeting will be at the office of H. T. Duffield in Pittsfield, Oct. 18, 1900.

R. H. Main, Secretary.

SOUTHERN ILLINOIS MEDICAL ASSOCIATION.

The 26th annual meeting of the Southern Illinois Medical Association convened at the Auditorium in Sparta, Ill., May 10, at 11 A. M. The meeting was called to order by the president, A. McLee. Divine invocation was offered, after which, the secretary being absent, W. F. Grinstead was made secretary pro tem.

Upon roll call only 17 members responded as only the early trains had arrived.

The president appointed a board of censors, consisting of Drs. Guthrie, Burgess, Silvey, White and Meyers.

The dues of Andy Hall and C. M. Galbraith were remitted on account of absence in the Philippines in the service of their country.

The association adjourned at 12 M. and was convened at 1:30 P. M.

Among the valuable papers which were presented at this session may be mentioned "Neurasthenia," by D. S. Booth, which called forth considerable discussion. Among those who discussed the subject were Drs. Grinstead, McIntire, Mann, Sloey, Jacobs, Essick and Silvey.

Dr. Galt presented a photograph of a case of so-called "cuban itch," in reality smallpox. This called forth considerable discussion, but the concensus of opinion was that it was genuine variola.

Prof. French, of the Southern Illinois State Normal, presented pathological specimens with microscopic demonstrations. These specimens called forth discussion by Drs. Gault, Booth, Guthrie and Grinstead, after which Prof. French was unanimously elected an honorary member of the Association.

A large number of interesting cases were next reported, among which were epilepsy cured by lancing gums—W. W. Essick. Removal of foreign body from ear with resultant cure of cough of 4 years standing—H. L. Gault. Removal of navy bean from ear resulting in cure of convulsions—Dr. Jacobs. Dr. Silvey, in the discussion of these cases, emphasized the point that we should not assign the same cause for a certain condition in all cases.

The president made a short congratulatory speech on the work of the society, and after the presentment of a number of other interesting cases, the society adjourned.

In the evening a reception was tendered by the local profession of Sparta to the association. At this reception sweet music was discoursed and enjoyment reigned supreme. This was one of the most delightful features of the meeting at Sparta, and a unanimous vote of thanks was tendered the local profession by the association before final adjournment, for the royal manner in which they had been entertained.

The association was called to order promptly at 9. A. M. by the president, on Friday, May 11.

A paper on intestinal cancer by F. M. Agnew, was read by Dr. Grinstead, on account of Dr. Agnew's inability to attend.

O. F. Baerens presented an excellent paper on "Nasal Obstructions," which was discussed by Drs. Mann, Colter, Davis and McIntire.

Jas. M. Ball read a paper on "Diagnosis and Treatment of Iritis."

The first paper presented at the afternoon session was "Shock in Railroad or Accidental Injuries," by W. W. Essick.

A paper was read upon a somewhat new line by O. B. Ormsby, Jr., entitled "The Physicians' Union." This paper called forth considerable animated discussion by Drs. Booth, Baerens, Telford and Earnhart.

After several other interesting short articles had been read, the election of officers took place, resulting in:

President, W. F. Grinstead, Cairo.
1st Vice President, H. L. Gault, Sparta.
2d Vice President, O. A. Dean, Campbell Hill.
Secretary, O. B. Ormsby, Murphysboro.
Asst. Secretary, O. Bottom, Blair.
Treasurer, A. T. Telford, Menard.

Board of Censors, Wm. R. McKenzie, Chester; O. T. Guthrie, Sparta; W. T. Ingram, Murphysboro; J. W. Armstrong, Centralia; S. B. Carey, Cairo.

Next came the selection of the place for the next meeting, which developed quite a spirited fight between Centralia and Murphysboro, Drs. Essick and Ormsby championing Murphysboro, while Dr. Armstrong presented the cause of Centralia. Murphysboro was selected as the next meeting place, the meeting to be held Nov. 8 and 9, 1900.

Six new members were elected.

Adjourned.

Respectfully,
O. B. Ormsby, Secretary.

Approaching meetings of district societies:

Galva District, Oct. 14 and 15.

Aesculapian Society of the Wabash Valley, at Paris, Oct. 25.

District Medical Society of Central Illinois, at Pana, Oct. 30.

The prospects are good for the formation of a new society in Livingston county in the near future.

Marriages, Deaths, Change of Address

MARRIAGES.

Dr. Frederick Morris Rittenhouse, of Chicago, and Miss Mary L. Wood, of Cairo, Sept. 25, 1900.

Dr. Bert Rowe and Miss Nellie Vandever, of Paris, Sept. 27, 1900.

Dr. Chas. L. Koch, of Quincy, and Miss Susie F. Long, of Pittsburg, Pa., Aug. 28, 1900.

Dr. Thomas Hughes, of Chicago, and Miss Rose Myrtel Wakely, of Milwaukee, Sept. 5, 1900.

Dr. Frederick E. Place and Miss Lillie Wagner Webster, of Chicago, Sept. 8, 1900.

Dr. Morley Da Costa Bates and Miss Edith Gray Brown, of Chicago, Sept. 5, 1900.

Dr. Howard Lyle Simmons, of Oak Park, and Miss T. Isabelle Richards, of Riverside, Sept. 13, 1900.

Dr. Stanley Burr Dickinson and Miss Nellie Cummings Shurtleff, of Chicago, Sept. 26, 1900.

DEATHS.

(Furnished by the State Board of Health.)

Beebe, E. W., at Elizabeth, Aug. 25.
Clayton, Allen B., at Chicago, Sept. 16.
Eggman, Jerre P., at St. Louis, Aug. 25.
Garski, Felix, at Chicago, Aug. 21.
Jackson, Frances M. W., at Chicago, Aug. 7.
Oliver, E. W., at Mulberry Grove, Aug. 9.
Randall, R. A., at Lewistown, Aug. 19.
Schmidt, Ernest, at Chicago, Aug. 26.
Wheeler, J. D., at Decatur, Sept. 12.
Wright, Charlotte, at Gillman, Aug. 19.

CHANGES OF ADDRESS.

(Furnished by the State Board of Health.)

CHANGES IN CHICAGO.

Butler, Wm. J., 1331 Van Buren st. to 1485 Jackson Boul.
Brown, Alice B., Hahnemann Medical College to 375 Dearborn st.
Bieringer, W. A., 104 Warren st. to 1903 Milwaukee ave.
Brownstein, S., 16 Johnson st. to 374 S. Halsted st.
Berg, L. M., 2032 Michigan ave. to 2516 Indiana ave.
Benson, E. O., 69 Clybourn ave. to Augustana Hospital.
Baum, E. W., 32 Wallace st. to 1129 Lill ave.
Cullen, G. A., 176 23d st. to Illinois Steel Co.'s Hospital.
Colwell, N. P., 268 S. Lincoln st. to 203 S. Western ave.
Damiani, J., 145 Grand ave. to 174 N. Halsted st.
Friduss, Sam'l, 661 W. 14th st. to 4834 S. Ashland ave.
Fegan, Geo. R., 280 Leavitt st. to 960 Armitage ave.
Gleitmann, Emil, 710 Fullerton ave. to 1732 Di-Versey Boul.
Goodwin, H. F., 511 Ashland Boul. to 682 E. 44th st.
Gurney, B., 6854 Wentworth ave. to cor. 69th st. and Wentworth ave.
Honberger, Frank H., 3808 Indiana ave. to 360 Oakwood Boul.
Hobson, Sara M., 7528 Saginaw ave. to 5400 Madison ave.
Heath, C. W., 16 Astor st. to 404 LaSalle ave.
Haeberlin, J. B., 5645 Indiana ave. to Michael Reece Hospital.
Hollister, J. C., 2348 Calumet ave. to St. Luke's Hospital.
Jacubowski, S., 535 Garfield ave. to Cook County Hospital.
King, J. B. S., 242 Wabash ave. to 100 State st.
Lawbaugh, Elmer A., 2754 N. Hermitage st. to 237 LaSalle ave.
Michels, R. S., 1007 W. Harrison st. to 381 N. Clark st.
McGibon, W. P., 3130 Indiana ave. to cor. 53d and Jefferson ave.
McCall, F. B., cor. Exchange st. and Center ave. to 876 St. Louis ave.
MacMullen, Della M., 6401 Stewart ave. to cor. 65th and Wentworth ave.
Niemann, Caroline M., 24 E. 43d st. to 4934 Wabash ave.
Potter, W. E., 785 W. Madison st. to 819 W. Harrison st.
Palmer, R. F., 531 W. Adams st. to Cook County Hospital.
Prestley, J. P., 1273 Van Buren st. to 1361 Harvard st.

Piper, E. D., 2141 Jackson Boul. to 3521 S. Hermitage ave.
Roehr, Chas. G., 433 N. Hoyne ave. to 822 W. Division st.
Rubovitz, W. H., 4626 Indiana ave. to Michael Reese Hospital.
Richmond, Y. G., 5494 Lexington ave. to 5611 Washington ave.
Scott, R. D., 682 Adams st. to 3200 Wallace st.
Shaff, J. N., 856 Polk st. to 766 N. Park ave.
Tufts, Frank S., 295 S. Halsted st. to 2718 Michigan Boul.
Weber, C. E., 5554 Ellis ave. to 4304 Grand Boul.
Whitmore, Eugene R., 733 W. Harrison st. to College of Physicians and Surgeons.
Wix, Geo. B., 304 Atwood Bldg. to Hotel Morrison.

CHANGES FROM CHICAGO.

Campbell, R. R., to Phoenix, Ari.
Campbell, O. E., to Camargo, Ill.
Detwiler, D. W., to Moravia, Ill.
Daugherty, J. W., to Chillicothe, Ill.
Haseltine, Burton, to Evanston, Ill.
Harvey, F. P., to Dana, Ill.
Honn, Wm. M., to Champaign, Ill.
Lockwood, Chas. D., to Pasadena, Cal.
Petersmeyer, W., to Ashton, Ill.
Pearman, J. O., to Champaign, Ill.
Pagelon, Otto H., to Iowa.
Thoumaian, H. H., to St. Anne, Ill.
Wood, Wilbur, to Decatur, Ill.
Warloe, Thos., to Norway.
Watson, F. V., to Antigo, Wis.

CHANGES TO CHICAGO.

Clancy, R. E., Cairo to 427 State st.
Cohen, M. S., Grant Fork to 291 W. 12th st.
Carlstein, J. A., to Ravenswood.
Ford, W. R., Fort Atkinson, Wis., to 6537 Perry ave.
Green, Geo., Aurora to 46 Van Buren st.
Gano, F. F., New Castle, Pa., to Tremont House.
Hackett, E. C., Dubuque, Ia., to 298 Maxwell st.
Ide, Clarence E., Newport, N. H., to 192 Superior st.
Kent, Jas. T., Evanston to 92 State st.
Kleinspell, H. H., Cassville to 100 N. State st.
Langhorst, F. H., Aurora to 58 Evergreen ave.
Morgan, Mary E., Aledo to 247 W. Polk st.
McCarthy, Richard, Itasca to 1019 Jackson Boul.
McQuaide, Thos. L., Mt. Vernon to 1973 W. Madison st.
Powell, Dwight C., Logansport, Ind., to Chicago.
Porter, G. S., Clinton to Chicago Homeopathic Hospital.
Pinckerton, W. J., Wapaca, Wis., to 3912 Cottage Grove ave.
Palmer, F. W., Belvidere to 444 Englewood st.
Walker, W. H., Utica, Neb., to 750 Harrison st.

CHANGES FROM ILLINOIS.

Barth, Geo., Rock Island to St. Louis, Mo.
Beardsley, E. J., Champaign to Fowler, Ind.
Bacon, D. N., Tennessee, Ill., to California.
Boeheim, John J., Millstadt to ———
Clausius, Max F., Barrington to United States Army.
Dearduff, A. A., Mt. Vernon to ———
Elmore, Sidney, Grantsburg to Oklahoma.
Foote, Lucius F., Elgin to Minneapolis, Minn.
Foster, A. C., Blue Mound to Columbia, Mo.
Gilbert, John, Paxton to Oklahoma.
Hansing, Adolph E., Columbia to ———
Rembe, R., Bloomington to Europe.
Potter, Gurdon, Belvidere to United States Navy.
Varney, Franklin T., E. St. Louis to ———

CHANGES TO ILLINOIS.

East, Harry H., St. Louis, Mo., to Xenia.
Hill, W. H., Gentryville, Mo., to Peoria.

CHANGES IN ILLINOIS.

Allen, Archibald R., Huntsville to Mound Station.
Allen, Ethan P., Stillman Valley to DeKalb.
Allen, J. R., Ramsey to Custer.
Allen, O. F., Mt. Vernon to Mt. Olive.
Allen, A. D., Buckingham to Mound.
Adams, Arthur R., Peotone to Tennessee, Ill.
Brobeck, Alexander R., Wellington to Hoopeston.
Blanchard, Jas. F., New Burnside to Creal Springs.
Blackstone, Geo. R., Pennington Point to Table Grove.
Barr, D. D., Prairie Home to Bloomington.
Cheatham, R. H., Lancaster to Lexington.
Donovan, H. V., Lovington to Toledo.
Drake, H. T., Palzo to New Burnside.
Dunn, G. W., Atlanta to Peoria.
Hillyer, Warren E., Fowler to Huntsville.
Hutton, J. W., Pittsburg to Rose Hill.
Hoffman, G. H., Annawan to Yorktown.
Jewell, Merritt, Phelps to Little York.
Kurtz, R. L., Sigel to Neoga.
Kors, M. L., Virginia to Peoria.
Kilby, Edgar E., Emden to Congerville.
Lucas, Geo. N., Malta to Elgin.
Landers, J. R., Sidell to Caldwell.
Lyerly, A. J., Wolf Lake to Anna.
McMilan, J. C., Berlin to New Berlin.
Moffitt, Wm. T., Jacksonville to Blue Mound.
Mayes, J. W., Dalton City to Sullivan.
McGurty, P. H., Hume to Arcola.
Miller, E. P., Long Lake to Sullivan.
Mitchell, E. L., Roseville to Monmouth.
Purdue, Perry F., Alto Pass to Lyndon.
Range, F. W., Green Bush to Roseville.
Rice, E. B., Orangeville to Brookville.
Rose, W. M., Columbia to Grantsburg.
Rigg, Roy W., Mt. Pulaski to Newark.
Smith, Frank S., Vienna to Buncombe.
Stewart, Harry J., Viola to Kewanee.
Stuttle, A. L., Glenarm to Williamsville.
Sanders, John F., Springfield to Bloomington.
Saling, W. J., Elsworth to Stonington.
Smith, H. D., Vandalia to Lovington.
Smith, Alvin, Boaz to Ark.
Tunnison, Ward C., Whitehall to Manchester.
Vaughan, R. F., Sailor Springs to Flora.
Van Doren, C. L., Hope to Urbana.
Williams, H. O., Belknap to Galatia.
Whiteaker, H. N., Olmstead to Goreville.
Warren, J. B., Lake Forrest to Orland.
White, Wm. G., Buncombe to Ava.

RETIRED FROM PRACTICE.

Connelly, J. L., Harristown.
King, John A., Springfield.

CALENDAR OF MEDICAL SOCIETIES.

City.	President.	Secretary.	Time and Place of Meeting.
Alton Medical Society	W. A. Haskell, Alton	P. W. Beckman, Alton	
Chicago Pediatric Society	A. C. Cotton, Chicago	F. S. Churchill, Chicago	1st Thursday of each month
Chicago Society of Internal Medicine	John A. Robison, Chicago	Ed. F. Wells, Chicago	Monthly
Chicago Surgical Society	John E. Owens, Chicago	D. N. Eisendrath, Chicago	1st Friday of every month Oct. to June
Chicago Laryngological Society	E. Fletcher Ingals, Chicago	T. Melville Hardie, Chicago	Quarterly in connection with Chi. Med. Soc.
Chicago Orthopedic Society	Frederic C. Coolidge, Chicago	John L. Porter, Chicago	Monthly, except July and August
Chicago Academy of Medicine	W. L. Baum, Chicago	J. G. Kiernan, Chicago	2d Friday of each month
Chicago Bohemian Medical Society	Chas. Stulik, Chicago	W. J. Dvorak, Chicago	1st Friday of each month
Chicago Medical Society	J. H. Stowell, Chicago	S. C. Plummer, 4305 Lake St., Chicago	Every Wednesday evening
Chicago Pathological Society	Ludvig Hektoen, Chicago	George H. Weaver, Chicago	2nd Monday of each month
Chicago Gynecological Society	Thomas J. Watkins, Chicago	Wm. H. Rumpf, Chicago	3rd Friday of each month
Chicago Ophthalmological & Otologic Soc.	Lyman Ware, Chicago	C. P. Pinckard, Chicago	2nd Tuesday of each month
Chicago Neurological Society	Richard Dewey, Chicago	Sydney Kuh, Chicago	No regular meeting
Chicago Medical Examiners	Denslow Lewis, Chicago	J. H. Stowell, 103 State St., Chicago	Quarterly
Demonstrator's Association of Chicago	H. A. Hadley, Chicago	M. L. Harris, Chicago	2nd Monday of each month
Decatur Medical Society	Herbert C. Jones, Decatur	John T. Miller, Decatur	Elks Hall, last Thursday eve. each month
German Medical Society of Chicago	M. Herzog, Chicago	Adolf Decker, Chicago	
Jacksonville, Medical Club	C. P. Thompson, Jacksonville	H. C. Campbell, Jacksonville	Every two weeks
Medico-Legal Society of Chicago	N. S. Davis, Jr., Chicago	Wm. L. Baum, 103 State St., Chicago	1st Saturday September, March and June
North Chicago Medical Society	Carl Wagner, Chicago	J. N. Washington, Chicago	Monthly
Ottawa City Medical Society	J. C. Hatheway, Ottawa	Wm. A. Pike, Ottawa	Monthly
Peoria City Medical Society	O. J. Roskoton, Peoria	E. M. Eckard, Peoria	1st and 3d Tuesdays of each month, Sept.
Physician's Club of Chicago	W. H. Wilder, Chicago	L. H. Mettler, Chicago	Monthly to June
Scandinavian Medical Society of Chicago	Geo. A. Torrison, Chicago	Thos. Warloe, Chicago	3d Thursday of each month
South Chicago Medical Society	Chas. F. Swan, Chicago	John S. Davis, Chicago	1st and 3d Tuesday of each month
The Medical Women's Club of Chicago	Gertrude G. Wellington, Chicago	Jennie Trish Topinka, Chicago	1st Tuesday in each month
Twin City (Champaign and Urbana) Clinical Association	H. C. Howard, Champaign	Jas. H. Finch, Champaign	2d and 4th Wednesdays of each month
Urbana Society of Physicians and Surgeons	Chas. A. Nichols, Urbana	E. S. Smith, Urbana	1st Monday of each month

County.	President.	Secretary.	Time and Place of Meeting.
Adams County Medical Society	Otis Johnson, Quincy	C. D. Center, Quincy	Monthly, on 2nd Monday at Quincy
Bureau County Medical Society	S. W. Hopkins, Walnut	A. E. Owens, Princeton	2nd Thursday of Nov. and May
Bond County Medical Society	B. F. Coop, Greenville	C. C. Gordon, Greenville	Meets in September and April
Clay County Medical Society	J. M. Bayles, Flora	W. E. Burgett, Louisville	Quarterly at Louisville [Hospital
Champaign County Medical Society	T. J. McKinney, Gifford	J. C. Dodds, Tolono	Thurs. nearest middle of month, Burnham
Clinton County Medical Society	W. T. Gordon, Carlyle	M. Broening, Carlyle	May, Aug., Nov., and Feb., at Carlyle
Crawford County Medical Society	T. N. Rafferty, Robinson	L. J. Weir, West York	2d Thurs. in July, Sept., Nov., Jan. & May
DeWitt County Medical Society	A. E. Campbell, Clinton	J. C. Myers, Clinton	2d Tuesday in Jan., April, July and Oct.
Douglas County Medical Society	Maud E. Nichols, Tuscola	W. E. Rice, Tuscola	1st Thursday in Feb., May, Aug. and Nov.
Fulton County Medical Society	E. W. Regan, Canton	D. S. Ray, Cuba	
Gallatin County Medical Society	Alex. H. Colvard, Shawneetown	Geo. P. Cassidy, Shawneetown	
Hancock County Medical Society	C. L. Ferris, Carthage	R. L. Casburn, Carthage	1st Monday in May at Carthage
Jefferson County Medical Society	J. H. Mitchell, Mt. Vernon	A. A. Dearduff, Mt. Vernon	
Jo Daviess County Medical Society	H. T. Godfrey, Galena	D. G. Smith, Elizabeth	Quarterly
Kankakee County Medical Society	Geo. H. Lee, Kankakee	J. H. Roy, Kankakee	
Lawrence County Medical Society			
Lake County Medical Society	L. M. Bergen, Highland Park	A. C. Haven, Lake Forest	1st Thursday of each month
LaSalle County Medical Society	R. W. Bower, Sheridan	E. H. Butterfield, Ottawa	Annually, 3rd Tuesday in April
Macoupin County Medical Society	J. S. Collins, Carlinville	J. P. Matthews, Carlinville	2d Tues. in April and Oct. at Carlinville
McDonough County Medical Society	D. A. Blair	S. C. Stremmel	1st Tuesday Jan., April, July and Oct.
McHenry County Medical Society			
McLean County Medical Society	Chas. E. Chapin, Bloomington	F. C. Vandervort, Bloomington	1st Thursday of each month at Bloomington

CALENDAR OF MEDICAL SOCIETIES—Continued.

County.	President.	Secretary.	Time and Place of Meeting.
Monroe County Medical Society	H. Ganter, Floraville	L. Adelserger, Waterloo	In March and September at Waterloo
Montgomery County Medical Society	W. W. Douglas, Hillsboro	Jos. M. Trigg	1st Tuesday in May, 1901
Morgan County Medical Society	W. C. Cole, Jacksonville	Edw. Bowe, Jacksonville	2d Tuesday of each month at Jacksonville
Moultrie County Medical Society	B. F. McMennamy, Bethany	J. W. Mayes, Sullivan	2d Thursday of each month.
Pike County Medical Society	L. J. Harvey, Griggsville	R. H. Main, Barry	Bi-monthly
Ogle County Medical Society	G. M. McKenney, Oregon	H. A. Mix, Oregon	1st Wednesday in January and July
Physicians' Protective Assn. of Jackson Co.	W. W. Essick, Murphysboro	F. A. Seed, Murphysboro	2d and 4th Saturday of each month
Rock River Valley Medical Association	A. G. McBride, Sterling	A. L. Miller, Dixon	2d week in June and December
St. Clair County Medical Society	W. H. McLean, E. St. Louis	J. P. Stack, E. St. Louis	Monthly
Schuyler County Medical Society	J. A. Harvey, Rushville	C. W. Ball, Rushville	Monthly
Saline County Medical Society	J. W. Tallman, Harrisburg	J. R. Baker, Harrisburg	1st Monday in each month.
Sangamon County Medical Society	Geo. N. Kreider, Springfield	E. P. Bartlett, Springfield	Monthly, on 2d Monday at Springfield
Stephenson County Medical Society	J. B. Leitzell, Orangeville	J. F. Fair, Freeport	
Shelby County Medical Society	Wm. J. Eddy, Shelbyville	A. G. Mizell, Shelbyville	Annually
Tri-County Medical Society	B. S. Euans, Watseka	Leroy Jones, Hoopeston	1st Tuesday in June and December
Vermilion County Medical Society	W. A. Cochran, Danville	E. E. Clark, Danville	2nd Friday evening at Danville
Will County Medical Society	G. M. Peairs, Joliet	Thos. J. Wagner, Joliet	2nd Tuesday of each month
Wabash County Medical Society	Norman Leeds, Bellmont	J. B. Maxwell, Mt. Carmel	Quarterly
Winnebago County Medical Society	T. N. Miller, Rockford	J. H. Frost, Rockford	2d Tuesday each month
Warren County Medical Society	Cynthia A. Skinner, Monmouth	Adelia Nichol, Monmouth	Semi-Annually
White County Medical Society	W. W. Apple, Carmi	W. A. Steele, Carmi	2d Thursday in Jan., April, July and Oct.
Williamson County Medical Society	W. H. Bentley, Marion	G. W. Evans, Marion	1st Monday of Jan., April, July and Oct.
Woodford County Medical Association	C. E. Davis, Peoria	Frank Stubblefield, El Paso	1st Tuesday in May

District.	President.	Secretary.	Time and Place of Meeting.
Aesculapian Society of the Wabash Valley	Z. T. Baum, Paris	H. McKennan, Paris	
Association Military Surgeons of Illinois	Col. Nicholas Senn, Chicago	Lt. Col. Chas. Adams, Chicago	Annually, Chicago or Springfield
Brainard District Medical Society	J. L. Lowrie, Lincoln	Katherine Miller, Lincoln	4th Thursday of Jan., April, July and Oct.
District Medical Society of Central Illinois	J. N. Nelms, Taylorville	C. R. Spicer, Taylorville	Last Tuesday in April and October
Fox River Valley Medical Association	C. L. Smith, Aurora	M. M. Robbins, Aurora	At Elgin in May and at Aurora in Nov.
Galva District Medical Society	M. T. Ward, Toulon	C. W. Hall, Kewanee	Annually, 1st Tuesday in May at Galva
Iowa & Illinois Cent. District Medical Assn.	C. C. Carter, Rock Island	G. E. Decker, Davenport, Ia	Quarterly
Medical & Surgical Society of Western Ill.	H. W. Smith, Roodhouse	H. A. Chapin, Whitehall	
Military Tract Medical Association	E. J. Sutton, Canton	C. B. Horrell, Galesburg	At Kewanee
North Central Illinois Medical Association	P. M. Burke, LaSalle	Geo. A. Dicus, Streator	Annually, 1st Tuesday in December
Southern Illinois Medical Association	W. F. Grinstead, Cairo	O. B. Ormsby, Murphysboro	Murphysboro Nov. 8 and 9, 1900